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Arnold Arboretum Library

THE GIFT OF

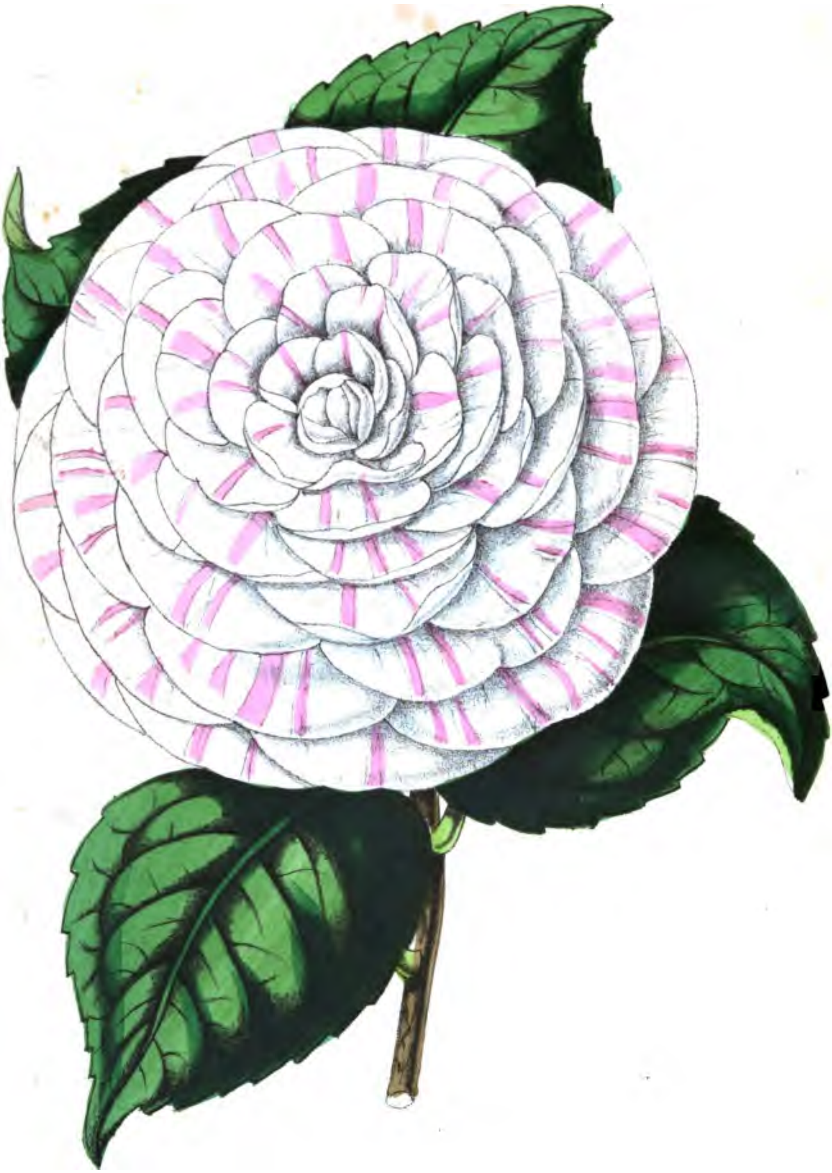
FRANCIS SKINNER
OF DEDHAM

IN MEMORY OF

FRANCIS SKINNER

(H. C. 1862)

Received May 1909.



Camellia.

Countess of Ellesmere

THE

FLORICULTURAL CABINET,

AND

Florists' Magazine.

JANUARY TO DECEMBER, 1853.

CONDUCTED BY
JOSEPH HARRISON.

LONDON:
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PREFACE.

It is with very great pleasure we have to address our supporters on the completion of our Twenty-first Volume of the Floricultural Cabinet. We stated at first what our object was: we have steadily pursued the course we then promised, and the continued and increasing support of our Correspondents, Subscribers, and Readers, fully testifies of the approval of our labours. In every successive Volume we have endeavoured to improve upon those previously issued; and we hesitate not to assert, that the Volume for 1853 is superior, in its practical utility, to all others. This has been accomplished in consequence of the valuable assistance we have uniformly been favoured with by our Contributors, to whom we owe a debt of gratitude, which we more powerfully feel than we can express hereby. We beg, however, most respectfully to thank them for the services so generously and liberally rendered us, and solicit a continuance of their valuable aid; and with that, we shall be enabled fully to realize in our next Volume an improvement even upon the present one. Several improvements are already arranged.

On all occasions it will be highly gratifying to us to meet the requirements of our readers, and information we respectfully solicit; having ascertained their wants, immediate attention will be given thereto; and we reiterate the assurance, that our utmost exertions will be employed to render our Magazine not only the *cheapest* of its class, but the most *useful* also.

FLORICULTURAL CABINET.

JANUARY, 1853.

ILLUSTRATIONS.

CAMELLIA JAPONICA, VARIETY.—COUNTESS OF ELLESMERE.

> "Bring, Flora bring thy treasures here,
> The pride of all the blooming year;
> And let me thence a garland frame."—SHENSTONE.

THE Camellia was first known in Europe from the accounts given by early travellers to China and Japan, who relate that they had seen in these countries rose-trees of the size of large oaks, having dark green shining leaves. Such accounts were considered fabulous till the Asiatic traveller, the Jesuit George Joseph Kamel (or Camellus, in honour of whom the Camellia takes its name), who visited Japan as a missionary in 1739, contrived to procure two plants of the single red, which he brought to Europe, and sold to Lord Petre for a considerable sum. His lordship had them sent to the gardens at Thornden-hall, in Essex, where, being kept in a hothouse temperature, they were killed. The gardener at Thornden, at that time, was a Mr. James Gordon, who, in 1742, commenced a nursery at Mile-end, near London. He, being somewhat aware of the value of so ornamental a plant as the Camellia, managed it so as soon to procure another plant, which he put out in the open border of a conservatory, where it continued to grow for ninety-four years, till the nursery was broken up to build upon in 1837; from it, it is supposed, many thousands of young plants had been raised as stools to bud, inarch, &c., the subsequent double kinds. It is generally understood that the Camellia was introduced into this country in 1792, but the above fact confirms the introduction from 1739 to 1742. Mr. Gordon died in 1780, and he had not only obtained the single red, but the double white and red striped. The single red, too, was figured in the *Botanical Magazine* in 1787, where it is observed that the plant will very probably be found as hardy as the Laurustinus or Magnolia.

The plant was then sold at a very high price, and in consequence prevented its being hazarded as trial.

The species and varieties introduced from China to this country, are, C. euryoides, white, C. Japonica, red, C. Kissi, white, C. oleifera, white, C. reticulata, red, and C. Sasanqua, single white, double white, semi-red, and double red.

Had the Camellia been a Greek, or Italian, or British plant, there would have been a great deal said of it by poets and lovers; and doubtless it makes a figure in the poetry of Japan. But unfortunately for our quotations, the Japanese have hitherto endeavoured to retain most of their good things to themselves. The Camellia Sasanqua is of smaller growth than any of the others, and in foliage and blossom very like the tea-shrub. The leaves have a very agreeable scent, and after being boiled, are used by the Japanese ladies to wash their hair. They are likewise often mixed with the tea-leaves to make the scent yet more agreeable. An oil, too, is expressed from the seeds of C. Japonica, which is constantly used in preparing food.

As a showy handsome flowering evergreen tree-like plant, the Camellia stands unequalled by any other yet introduced into our own country. Although we have had but few kinds introduced from Japan or China, the skill and management of British and Continental cultivators of Camellias by hybridizing, have much more than compensated for that deprivation, by the production of upwards of one thousand selected varieties, all of which are handsome, and many of them peculiarly so.

The very beautiful Camellia which we figure in our present Number, is an hybrid raised in the nursery of Messrs. Jackson, of Kingston, in Surrey. It is one of the handsomest, of fine form, and excellent habit. It merits a place in every collection.

Most of our readers are aware that the Camellia is quite hardy. Upwards of thirty years ago, we planted some in the open ground in Yorkshire, which flourished most admirably; each successive season bloomed profusely, and after a few years' growth, had thousands of flowers during April and May. Frost sometimes occurs in those months, and if sharp, the flowers are liable to be damaged by it; we always protected the plants when in bloom and such weather likely to occur. If the plants, even, had not a flower, they are worth growing out of doors; the fine evergreen shining foliage is especially handsome.

As it regards their management in-doors, several excellent articles on the subject have appeared in previous volumes of this Magazine. The following account of a most successful method of treatment has been forwarded us by Mr. John Burley, who has had very extensive collections under his charge.

Compost.—That which suits the Camellia far better than any other I have tried, is the following:—One-third good peat, one-third good hazel loam, and one-third half-decayed leaf mould, having a liberal sprinkling of sand in it, so as to keep it free. Let the loam and peat be broken into pieces about the size of walnuts, and the whole materials be well mixed together, and be used in potting in its rough broken state.

Potting, &c.—Established Camellias should always be re-potted in *August*; turn them out of the pots, and remove all old soil you conveniently can without injuring the roots, then have a *clean pot* (never use the old pot unless it be thoroughly cleaned), and place a little rough soil over the crocks to allow a free course for the water, by keeping the crocks clear from the soil; then pot the plant, pressing the compost moderately firm, then water it so as to settle the soil properly about the roots. After extensive experience with the management of Camellias, I find them to flourish much better when re-potted at this period (August) than those shifted at any other season.

A short time after they have done blooming, let them be removed to a warmer house, and be kept well syringed over-head, when they will break out freely with strong fresh shoots, and when they cease growing, flower-buds will be produced on almost every shoot. When the blooming buds are thus provided, cease to syringe the plants over-head, as it sometimes starts them to a fresh growth, and the bloom is destroyed. After they have finished their growth, and blooming buds are formed, the plants must be removed to a less moist house; but still keep them warm and shaded until the flower-buds are fairly secured and attained a good size, when they may be removed into either a cool plant-house or frame, where they must be kept until the blooming season arrives. Particular care must be taken that during the period from the time of their removal from the warm house to the cool one, or frame (which removal will generally be about the middle of July), that they do not lack water, or the flower-buds will soon drop off. Allow a plant to flag but once even, and that will prove fatal in some degree; but by keeping the soil just duly *moist*, not *soddened*, and allowing the plants plenty of air, this fatal casualty will be prevented. When too great a number of flower-buds are produced, a proper portion must be taken away. By proper management, there never will be an unsightly naked Camellia, but if such come into the possession of any cultivator, let the plant cease blooming, place it, as is done with the general stock, in the warm house, and when it has been a week or ten days there, the sap will be moving rapidly; then, before the new shoots push, cut back the unsightly head, and the branches will break forth with a new supply of shoots. After the head is cut off, let the old shoots be syringed three or four times every day; it materially tends to promote the breaking forth of the new shoots.

NOTES ON NEW OR RARE PLANTS.

Dendrobium cretaceum. The chalk-white flowered.—Mr. Lobb sent this pretty flowering species to Messrs. Veitch, of Exeter. It has bloomed in their orchid-house. The flowers are produced along the branches, a foot or more of each, before any leaves appear. Each flower is about two inches across, of a chalky-white, with a few orange-coloured streaks on each side the middle portion of the broad lip. The blossoms are produced singly, not in pairs as had been represented. (Figured in *Bot. Mag.*, 4686.)

ECHINOPSIS CRISTATA.—Mr. Bridges introduced this species, as well as a purple-flowered variety from Bolivia. It is of the flat melon-shaped section (Cactus of some), with spines an inch long. The tube of each flower is about six inches long, and the spreading part of the petals about eight inches across, of a creamy white, with the outer petals tinged with purple. It is remarkable for the great size and long tube of the flowers, in comparison with the short melon-shaped trunk or stem. It is in the collection of the Royal Gardens at Kew. (Figured in *Bot. Mag.*, 4687.)

HELICONIA PULVERULENTA.—This genus has the habit of the Strelitzia, the present species being from South America. It has recently bloomed in the stove at Kew. The large leaves are green above, but a powdery-white beneath. The flowers are small, narrow-petalled, a greenish-white, but at the termination of each floral stem there are several bracts, stiff, seven inches long, of a very rich crimson-scarlet colour. The stem of the plant at Kew is six feet high. It is a showy plant. (Figured in *Bot. Mag.*, 4685.)

HOYA FRATERNA. *Thick leaved.*—Mr. Lobb discovered this fine species in Java. It bloomed in the establishment of Messrs. Veitch during the whole of the past summer and autumn. Some of the leaves are a foot long, and three to five inches broad, very thick and firm. The flowers are produced in a closish umbel, of twelve or more blossoms in each. The flowers are on the upper side, between silky and velvety, of a pale yellowish-buff colour, but having five stains or spots radiating from the centre, and the honey from the central nectary is so diffused over the flower, as to give a rich brown tone of colour to the whole umbel of flowers,—a rich brown-red tint. Each blossom is three parts of an inch across. It is a noble and handsome flowering species. (Figured in *Bot. Mag.*, 4684.)

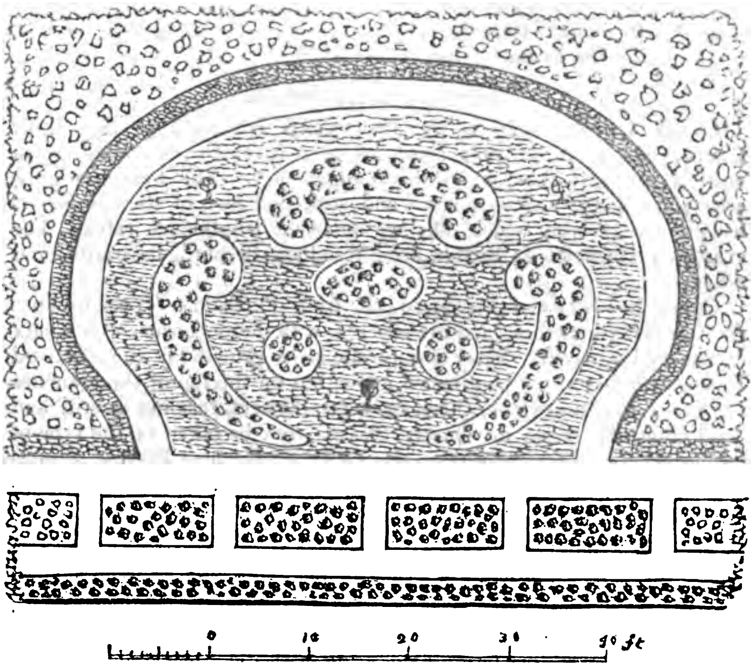
RAPHISTEMMA PULCHELLUM.—A stove-climbing plant, a native of the forests of Silhot. The plant and flowers are somewhat in the way of Stephanotus floribundus. Leaves six inches long, flowers in large pendent umbels, each blossom being an inch and a-half across, white, with a rose-stripe down the middle of each of the five divided flower. (Figured in *Paxton's Flower Garden.*)

SALPIGLOSSIS COCCINEA.—A very handsome hybrid, which has been raised by some person residing near Colchester, and now in the possession of Messrs. Henderson, of Pine-Apple-place Nursery. It is similar to the other Salpiglosses in all respects but the colour of its flowers, which are of a clear vivid scarlet, with deeper-coloured veins at the throat of the blossom. The outside of the flower is yellow at first, afterwards has a red tinge. (Figured in *Paxton's Flower Garden.*)

VACCINIUM ERITHRYNUM. *Red-twigged.*—Messrs. Rollisson, of Tooting, received this very beautiful species from Java. It is an evergreen, with thick oval-shaped leaves an inch and a-half long. The flowers are produced in many terminal racemes, each raceme having about a dozen blossoms, drooping, of a deep coral-red. A single flower is about half an inch long. The stems of the plant are red; it is shrubby, growing a foot and a half high. It is exceedingly handsome, and it merits a place in every shrubbery, and on every rockery. (Figured in *Bot. Mag.*, 4688.)

PLANS OF FLOWER-GARDENS.—By T. Rutger. Esq.

No. 1.



The east, south, and west sides of the annexed diagram for a flower garden on grass are supposed to be bounded by an evergreen hedge, and the north side by a wall, which, on its south side, is intended to be appropriated for choice climbers. An American border is given round against the evergreen hedges, and the clumps in the middle are to be on grass. The narrow border against the wall might be appropriated for Gladioluses, Antholyzas, &c., and the square clumps for masses of the most approved kinds of flowers. The oval and circular clumps on the grass may also be devoted to masses if approved of. The square clumps, and the narrow border against the wall, should have box-edgings.

DISTINCTION OF THE CLASSES OF ROSES.

The following remarks on the classification of the Rose, with a description of their signs of distinction, will now be of use to your readers.—James Smith, *Cheshunt.*

M. Carriere divides Roses into seven main classes:

1. Perpetual or Portland Roses.
2. Hybrid Perpetuals from Portland.
3. Hybrid Perpetuals from Bourbon.
4. Bourbon Roses.
5. Noisette Roses.
6. Bengal Roses.
7. Tea Roses.

SIGNS OF DISTINCTION.

Class 1.—Perpetual or Portland Roses have fine short thorns, which appear very close together, cover the branches almost entirely, and give them a brownish appearance. The branches grow erect; the flower-stalks are short and stiff, and each of them supports usually one flower, which has a somewhat lengthened calyx. For example: Duchesse de Rohan, Julie Krudner, Bernard, Favourite, and others.

Class 2.—Hybrid Perpetuals, from Portland.—These produce erect growing branches, and are covered with hard thorns, which vary in size and strength. They assume the same growth as the Portland Roses, have likewise a lengthened calyx, but on the top of the branches there are sometimes one, three, or seven flowers, forming a stiff and erect bouquet. Rose de Quatre Saisons may be taken as the type of their growth and their flowers; also La Reine Baronne Prevost, Jaques Laffitte, Madame Laffay, Duchess of Sutherland, Amandine, Louis Bonaparte, Clementine Seringe, Gloire d'Angers, Comte de Montalivet, &c.

Class 3.—Hybrid Perpetuals, from the Ile-Bourbon.—It seems that plants of this class keep the balance between Perpetual and Bourbon kinds; they approach, however, in appearance more to the latter. The sepals of the calyx are generally very strongly fimbriated. The rounded form of the calyx is also another sign by which they may be distinguished from the Portland hybrids. An irregular and intricate position of the branches gives them a peculiar appearance. Examples are Clementine Duval, Comte de Bobinski, Ernestine de Barante, Colonel Foissy, Géant des Batailles, Vicomtesse de Belleval, &c.

Class 4.—Bourbon Roses.—The wood of these is smooth; their branches are sometimes short, terminating with a single flower; but the buds of some kinds are strong, and produce vigorous shoots, on the tops of which appear from three to twelve flowers. The thorns at the base are strong, curved, and placed at some distance from each other. The sepals are oval, rounded, strong, fimbriated, smooth, and dark green. The calyx is rounded. It often happens that the branches of some kinds in this class grow horizontally. Examples: La Reine des Ile-Bourbon, Madame Desprez, Charles Souchet, Paul Joseph, Souvenir, de la Malmaison, Souvenir du 4 Mai, Remond, Mrs. Bosanquet, &c.

CLASS 5.—NOISETTE ROSES.—Their foliage has much resemblance to that of the Tea Roses, but their branches are more vigorous, much longer, and terminated by numerous flower-buds. The bark of the branches is smooth and thorny. Examples: Lamarque, Ophyrie, Aimée Vibert, Rose Mille Ecus, Noisette Despriz, &c.

CLASS 6.—BENGAL ROSES.—In this class the branches are nearly without thorns, the bark is smooth, the sepals are more or less prolonged and fimbriated, the branches seldom bear more than one flower. The calyx is rounded, the flowers have nearly always colour, whilst those of the Tea Roses (with which this class is in close relationship) are, with few exceptions, pale white or yellowish. It is also to be observed, the flowers of the Bengal Roses are very seldom scented. Examples: Bengale Ordinaire, Cramoisie Supérieure, Prince Eugène, Eugène Hardy, Beaucarmin du Luxembourg, Augustine Hersan, &c.

CLASS 7.—TEA ROSES.—The branches have a very smooth bark, and have not many thorns. The leaves are glossy, and the flowers appear on the top of the branches, which are slender and not very long. In most cases the weight of the flowers bends the branches, so that only their under side is seen. Vigorous examples produce sometimes stronger shoots, which are not so flexible, and bear three or often five flowers on their end, as Devoniensis, Safrano, Souvenir, d'un Ami, Vicomtesse Decazes, Elisa Sauvcge, Burés Goubault, Moiré, &c.

WINTER BLOOMING FUCHSIAS.

BY MR. WILLIAM MOFFATT, OF BRETBY GARDENS.

PERSONS accustomed in the cultivation of pot plants are aware of the importance of allowing plants to remain a certain period of time in partial repose, and also that before again excited into growth the young shoots previously made should be thoroughly ripened. This is simply cause and effect, forced upon the observation of those whose duty it may be to attend to plant cultivation for any length of time. That this period of rest in vegetation is brought about by natural causes is evident; at the same time it must be admitted that plants are materially altered in habit by a long process of cultivation, and when under artificial treatment will, to a limited extent, grow, blossom, and ripen fruit and seed, independent of the influence of the sun's rays. This is exemplified by the many gay flowers that are to be seen in our greenhouses in the dull months of autumn and winter. True it is that many of them are forced into bloom by excited treatment, but this only shows what may be done to gratify the lovers of floral beauty at a season when less of the bright corolla is to be seen. It is an easy matter to mention a number of blooming plants which never at any season lose their due share of admiration; still I think the Fuchsia is seldom thought of as a winter flowering plant, if I except Fuchsia serratifolia, which I have seen in perfection by a process of treatment so simple as being plunged in the open border (without turning it out of the pot), allowing it to remain from May to August, or September, and then removing it to the greenhouse, where, with a fine growth of young flowering wood, it soon formed an object of attraction. The other light and dark varieties will, I have found, serve the same purpose by the following treatment:—From amongst those plants that were forced into bloom in the earlier part of spring, select those that indicate the freest habit of growth; expose them at the base of a south wall, or elsewhere, where they will be sufficiently exposed to the heat of the sun, and gradually withhold water, so as far as possible to prevent further growth and ripen the young shoots. About the end of August they should be potted into smaller-sized pots, and, after cutting back the young wood a short distance in accordance with the strength and formation of the plants, they should be plunged into a brisk bottom heat: in a short time they will push freely into growth, and make sufficient roots to enable them to flower profusely. When removed to the greenhouse they should not be exposed to cold draughts, so that the flowers may expand freely and remain longer on the plants. Fuchsia serratifolia seems different in habit from the others; probably it is from Fuchsia fulgens.—G. F.

TREATMENT OF LOTUS JACOBŒUS, AS A BEDDING PLANT.

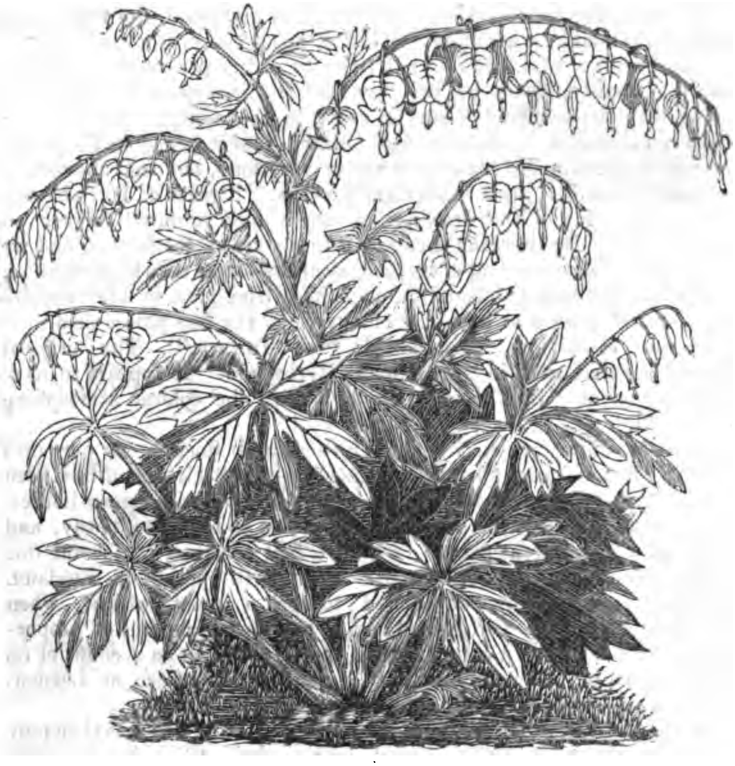
BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

This well-known and much-admired inhabitant of our greenhouses is one of the most charming bedding plants for the flower garden that we possess, and should be in every one. Its dark-velvet pea-flower shaped blossoms, its dwarf, bushy, habit, and the profusion of its flowers, alike combine to render it one of the most interesting plants for the garden.

It will be found to do well by the following method of treatment:—Cuttings should be put in in autumn; but if that opportunity be past, then early in spring; but the former is the best, the plants being strong by the following turning-out time. Take cuttings of the most likely young shoots, either from plants in the open ground, or in pots, and insert them in well-drained pots, giving plenty of room to each cutting, in order to prevent them fogging off, which they are very apt to do. The bottom of each cutting should not be more than a quarter of an inch below the surface of the white sand. After insertion, place the pot in moderate bottom heat for about a week, or until the bottom of the cuttings are caliced, when they may be removed to the shelf, in an airy part of the greenhouse. In this situation keep them till January, and then pot them into sixty-sized pots, and keep them in a close frame, or other similar place for a week or two, by which time they will be commencing growth again, and may have a due admission of air as the season advances being kept in a frame or pit,—keeping them near to the glass, in order to prevent them being drawn up weakly. The principal thing to guard against in their young state is *damp*, as almost the least degree of it destroys them.

By the following May they will have made strong bushy plants. Let a bed be prepared, of light, but not *very rich* mould; for if too rich, they do not bloom so freely. Plant them out, with balls entire, at about ten inches apart; and if the succeeding season be a dry one, let them have a little water every evening, to assist them in speedy growth. By the early part of July they will begin to bloom, and will be beautiful throughout the season. A bed of them in profuse bloom resembles a spread-out dark-speckled velvet and green mantle. The plants so treated become quite bushy, fill the bed well, and rarely become more than nine inches high. They may be readily increased by seeds; but plants from cuttings bloom much more profusely.

DIELYTRA SPECTABILIS.



In a previous number of this Magazine, we noticed this beautiful flowering plant, but it appears, from several communications we have recently received, that there are many of our country readers who have not yet seen the plant. We therefore give an engraved representation of its form of growth, and extend our remarks relative to its cultivation, &c.

A celebrated poetess of our own country, Mary Roberts, when writing upon flowers universally, and in her usual delightful strain, exclaims:

> Ye "stars of earth," that radiantly
>   Light up man's darksome road,
> Well did the poet deem of you,
>   Who call'd you "smiles of God!"
>
> Creation's morning saw your birth
>   In Eden's blissful bowers;
> And still on this sin-blighted earth,
>   Ye shed a charm, sweet flowers!
>
> No solitude so drear and deep,
>   But there, in light, are ye;
> Breathing from vale or mountain steep
>   Beauty and fragrancy.

Amongst the universal constellation thus embraced, the DIELYTRA SPECTABILIS shines with peculiar lustre, being one of the most lovely.

Mr. Fortune, who was sent to CHINA to collect plants by the Horticultural Society, states he first saw the *Dielytra spectabilis* growing, along with the beautiful *Weigelia rosea*, in the artificial rocks, in the GROTTO-GARDEN, in the island of Chusan, that it is one of the plants of which the Chinese mandarins are so very fond, and that they cultivate with so much pride in all their gardens. Figures of it, in bloom, appear in many of the drawings of their most admired flowers on China ware. Mr. Fortune thus saw it in a state of *cultivation*, and we have not any clear account of its being seen *otherwise* than in cultivation. Linnæus, who *first* published it, does, it is true, give, in his "Species Plantarum," Siberia as its native country, and the late possessor of the Linnæan Herbarium, has added, "or Tartary." The original flowering specimen is in the Linnæan Herbarium. It appears to have been known only in *Northern* China, bearing the coldest atmosphere uninjured.

Since its introduction by the Horticultural Society to our own country, it has been liberally dispersed by the Society, and has been most successfully cultivated in our stoves, conservatories, green-houses, frames, and in the open air, where it proves to be quite hardy, and becomes a magnificent plant. We have had accounts of several fine grown plants, in both the south and north parts of England. It has been usually considered to be a plant which, when vigorous, grew from two to two and a half feet high, and of proportionate breadth; but a correspondent recently sent us an account of its being grown in the open border in a gentleman's garden at Lexden-heath, near Colchester, to the following extraordinary size:

"The plant to which I allude was planted in 1850, and was then only a few inches high. During that year, and in 1851, it grew and flourished wonderfully, but this year, 1852, it has reached a size and form that very far surpasses anything of the kind that I have ever heard of. In the middle of August it became necessary to cut it down, on account of its enormous size, to prevent it from destroying some neighbouring roses, and it then measured upwards of thirty feet in circumference, and five feet high. Between last April and August it frequently bore upwards of two hundred perfect spikes of flowers at once, and had not a single stem or branch broken by the wind, although it was in a very bleak and exposed situation. It was planted in the richest artificial soil that could be made, and during winter it is left wholly unprotected."

Although the plant can be grown to the above-named size, it forms a most charming bedding plant, growing from nine inches to a foot, or foot and a half high, blooming profusely. The richer and deeper the soil, the more vigorous it becomes; which can be promoted more or less by applying liquid manure. It is of such an accommodating character that it may be grown at any size desirable, by regulating the compost, &c., accordingly.

It is very easily propagated by cuttings of the young shoots, as is done with the Dahlia, and it strikes as freely. Plants raised from cuttings in spring, duly potted, &c., and turned out into the flower-garden, will begin to bloom about Midsummer, and continue to the end of the season. Plants struck during summer, and rested in autumn and winter, and put out into the border early in March, will bloom from the beginning of May, or earlier in warm situations.

Where established plants are already in the open ground, nothing more is required now than covering the plants over with dry leaves a few inches thick, and spreading a little soil to prevent their being blown away. This is sufficient winter protection for any part of Britain. After the decay of the flowering stems, in doors, its thick fleshy roots require to be kept dormant, similar to what is done with Alstrœmerias, &c., and after a season of rest, the roots may be divided if required for increase, and the plant started into growth.

It is a charming plant for stove, green-house, sitting-room, or garden, and will flourish in any well-aspected window in town or country. Its long graceful racemes of drooping flowers are admired by all who see them. The outer petals are of a rich rosy-red, and the inner ones nearly white.

A PLANT MORPHOLOGICALLY CONSIDERED.

BY THE REV. DR. M'COSH, OF BRECHIN, READ TO THE BOTANICAL SOCIETY OF EDINBURGH.

According to the common idea, a Plant is composed of two essentially distinct parts, the stem and the leaf. The axis of the embryo proceeds downward and upward simultaneously, the descending axis being the root, and the ascending one the stem or trunk. Upon these axes others are formed as subterranean or aërial branches. The leaf is formed upon the ascending axis, and besides its common form, it assumes, while obeying the same fundamental laws, certain other forms, as in the sepals, the petals, the stamens and pistils. This makes a plant a dual, or composed of two essentially different parts. But to us it appears possible to reduce a plant by a more enlarged conception of its nature to an unity. According to our idea, it consists essentially of a stem sending out other stems similar to itself at certain angles, and in such a regular manner that the whole is made to take a predetermined form. The ascending axis, for instance, sends out at particular normal angles in each tree branches similar in structure to itself. These lateral branches again send out branchlets of a like nature with themselves, and at much the same angles. The whole tree with its branches thus comes to be of the same general form as every individual branch, and every branch with its branchlets comes to be a type of the whole plant in its skeleton and outline.

Taking this idea of a plant along with us, let us now inquire whether there may not be a morphological analogy between the stems and the ribs or veins of the leaf. As these veins are vascular bundles, proceeding from the fibro-vascular bundles of the stem, they may be found to obey the same laws. Physiological confirmations of this presumption may be found in the following circumstances:—(1.) Both stem and vein are capable of becoming a spine, the stem as in the Thorn, the vein as in the Thistle. (2.) It is also an unsettled question whether the inflorescence and seed-vessels in many cases are formed out of metamorphosed leaves or metamorphosed branches. The very fact that there is such a dispute shows that there is an analogy between leaf and branch. (3.) The vein of the leaf is capable, equally with the stem, of producing a leaf bud, as in Brryophyllum and Gloxinia.

We begin with the examination of those plants which have a fully veined or reticulated leaf, and here we shall find a morphological analogy between the leaf and the branch, and the leaf and the whole plant. It should be noticed that this resemblance can be observed only when both the stems and the veins are fully and fairly developed. Let us first inspect, in a general way, the leaf of a tree with its central vein or veins, and its side veins. Even on the most careless inspection, the central vein will be found to bear a striking analogy to the central stem or axis of the tree, and the side veins to the branches. Let us, then, look at the tree when stripped of its leaves in winter, and we shall see how like it is in its contour and skeleton to the contour and skeleton of a leaf. We shall be particularly struck with this, if we view it in the dim twilight or the "pale moonlight" between us and a clear sky. In both leaf and tree we see a central stem or stems with ramified appendages going off at certain angles; and we may observe that the tree, in its outline, tends to assume the form of a leaf.

The general impression produced by a first glance will be confirmed on further inspection. The analogy between the skeleton of the leaf and the skeleton of the branch may be seen in a number of points, as well as in the general resemblance between the ramification of the plant and the ramification of the venation of the leaf. (1.) Some trees, such as the Beech, the Elm, the Oak, the Holly, the Portugal and Bay Laurels, the Privet, the Box, will be found to send out side branches along the axis from the root, or near the very root; and the leaves of those trees have little or no petiole or leaf stalk, but begin to expand from nearly the very place where the leaf springs from the stem. There are other trees, as the Common Sycamore (the Scotch Plane-Tree), the

Peach, the Chestnut, the Pear, the Cherry, the Apple, which have a considerably long unbranched trunk, and the leaves of these trees will be found to have a pretty long leaf stalk. (2.) Most of our low-branching herbaceous plants, such as the Mallow, Rhubarb, Tussilago, Marsh Marigold, Lady's Mantle, Hollyhocks, send out a considerable number of stems from near the root; and it will be found in exact accordance with this that those set off from the base of the leaf a considerable number of main veins or ribs, which, as they spread, cause the leaf to assume a rounded shape. In these plants the morphological resemblance between tree and plant is seen *horizontally* and not *vertically*. In this respect these plants are different from our forest-trees, which send up commonly one main axis with lateral branches, and have in their venation one leading vein with side veins. (3.) Some trees, such as the Beech, the Birch, the Elm, send up one large main stem, from which, throughout its length, there proceed comparatively small branches, pretty equal along the axis, and it will be found in such cases that the leaf has a central vein with pretty equally disposed veins on either side. Other trees, again, tend rather to send off at particular heights a number of comparatively thick branches at once. This is the case, for instance, with the common Sycamore, the Chestnut, and the Laburnum. The trunk of the Sycamore (Acer Pseudo platanus), about eight or ten feet above the surface of the ground, commonly divides itself into four or five large branches, and, in precise analogy, we find the leaf at the top of a pretty long leafstalk sending off four or five large veins. The Chestnut tends to send off at the top of the unbranched trunk a still greater number of branches; and we find, in correspondence with this, that its leaf is commonly divided into seven leaflets. The Laburnum (and also the Broom and Clover) goes off in triplets in respect of leaflet and ramification. In such cases it will commonly be found that the leaf is compound; and we are *to regard all such compound leaves as one, and representative of the whole tree.* Generally it is the whole leafage coming off at a given place which represents the whole tree, and the single leaf, when there are a number of leaves, represents merely the branch. (4.) Some plants, such as the Rhododendron, the Azalea, and the Lupine, send off leaves which have a tendency to become whorled, and their branches have also a tendency to become verticillate. (5.) The stems of some trees, such as the Thorn and Laburnum, are not straight, and the branches have a twisted form; and it will be found that the vein of the leaf of these trees is not straight, and that the leafage is not in one plane. This is also seen in the Elm. (6.) In some trees, such as the Beech, the stems go off in nearly straight lines, and the leaves are found to have a straight venation. In other trees, again, such as the Chestnut, the branches have a graceful curve, and the veins of the leaves are curved in much the same way. (7.) In most plants, the angle at which the side stems go off will be found to widen as we ascend to the middle, and thence to decrease as we ascend to the apex, and the venation of the leaves will be found to obey a similar law. This helps to give both to tree and leaf their beautiful oval outline. In some plants, again, such as the Poplar and Birch, the angles are widest at the base, and tend to narrow as we ascend; and both leaf and tree, in such cases, assume a kind of triangular form. (8.) Generally we shall find a correspondence between the angle of the ramification of the tree and the angle of venation of the leaf. We have made a sufficient number of measurements to be able to say that there is often such a correspondence. But it should be acknowledged, that while it is not difficult to determine the angle of the venation of the leaf, it is most difficult to determine what is the normal ramification of the tree; for the angle at which the branch goes off is liable to be modified by a great number of circumstances. All that we argue for is a general correspondence between the tendency of the direction of the branches and the tendency of the direction of the veins of the leafage; a tendency liable, however, to be affected by a great number of circumstances, natural and artificial. *It is always to be remembered, that it is the whole leafage coming out at a given place, which represents the tree;* and the single leaf, where there are more leaves than one, represents the branch or the young tree. It is only thus that I can bring the Ash and Mountain Ash into accordance with these views. The whole leafage with its stalk represents the tree, and the leaf branch and leaflet the branches and branchlets, as also the young tree.

CULTURE OF THE ALLAMANDA CATHARTICA.

BY MR. F. THORNE, OF SHUCKBURGH PARK.

THIS fine blooming hothouse climber derives its name from Dr. F. Allamand, formerly a Professor at Leyden. It was introduced into England in 1785; and although it has been so many years, yet it is not usually grown and bloomed as it is capable of, and its merits entitle it to. In my opinion, there is not another stove plant more easy of cultivation, and it has the additional excellence of not being subject to the attacks of any kind of insect. I have had it growing by the side of Stephanotus floribunda for some months, a plant which every grower well knows is very liable to the attacks of the white bug, and we may term it almost a bug-breeder. Its large orange-coloured blossoms, combined with a long continuation of bloom, renders it highly attractive and beautiful. It is not so much cultivated as it deserves; it ought to be in every collection of stove plants.

Cuttings from the young wood will strike freely in sand, and the pot plunged to the rim, where there is bottom heat at about seventy degrees; give but little water, as the cuttings are very apt to damp off. Plants struck the early part of summer, will make fine flowering specimens the following season. A cutting of 1851 was potted last May, into a twelve-inch pot, using leaf-mould and loam, in equal portions with one-fourth silver sand. In this compost it grew vigorously; and being trained to a trellis, by the end of July the trellis was completely furnished with young wood, at which time it began to produce flowers at the extremities, and had a succession of bloom for four months from each shoot. Similar to the Oleander, during the period of growth and flowering, it requires water daily, and sometimes twice, according to the temperature of the atmosphere. A little liquid manure, applied occasionally, greatly promotes the size of its fine funnel-shaped bloom, which are from three to four inches in diameter. During winter, it has but little water—just enough to preserve life, and to give it a season of *rest*.

Early in March, the side shoots are pruned into one eye, and the plant disrooted and repotted into the same sized pot, then plunged in bottom heat until the roots are fairly established. Plants managed in this way will last for many years, in the same sized pots and trellises, and are brought into a flowering state much earlier than they are when planted in a conservatory *border*, as the roots require to be contracted, in order to have them bloom at an early stage of growth. It grows freely in compost of equal parts of one year old turfy loam, sandy peat, and well-rotted cowdung, with leaf-mould.

A FLORAL TREAT.

Being a constant reader of your Magazine, and observing that remarks on the Camellia but seldom appear therein, I am induced to forward you some particulars of a magnificent collection of these noble flowering plants, grown and bloomed with extraordinary success, very far beyond any I have seen elsewhere, in the nursery establishment of Messrs. Lucombe and Pince, of Exeter.

During the past season, I had the pleasure of a visit to that place, and previous thereto, a friend of mine called my attention to the Camellias, adding, "You will behold the richest floral treat in that class of plants you ever beheld." I confess I was a little scrupulous as to that, having in various parts of England seen celebrated collections, and very superb plants; but on entering the Camellia-house at Exeter nursery, I was struck dumb with amazement, and almost fancied myself in "a more genial country and clime." The house is about 200 feet long, and of a proportionate width and height, where the plants were growing in the greatest luxuriance, permanently planted out in the bed, resembling huge laurels, some of which were about fifteen feet high, and more than half that across, feathered from top to bottom with regular branches of the beautiful shining evergreen foliage, and literally covered to the very summit by one entire mass of flowers. I observed splendid plants of Chandlerii, Donkelarii, and Bealii, and Duke of Devonshire in profuse bloom.

The following is the method of treatment, by which such magnificent, luxuriant plants are produced:—*Compost*. Two parts of good turfy peat, one part of strong hazel loam, having previously been one year in stack, with the addition of one-sixth the quantity of the others of good gritty sand, these were properly mixed together, and having a very liberal drainage. During the period of growth, *liberal* supplies of water are given, and as much given at each watering as will moisten *all* the soil. During summer the house is kept as cool as possible by the admission of air. The roof of the house only is glass, and but little fire is given at any time, only just enough to keep the frost from the plants.

LISIANTHUS RUSSELLIANUS.

BY AN AMATEUR GROWER.

This most beautiful flowering plant is seldom seen now-a-days. One or two made their appearance at the London Exhibitions the past season, which I hope will revive its merited popularity. Why it is so seldom grown, I suppose, arises from some mistaken apprehension of its being very difficult to cultivate in a satisfactory manner. I am aware some valuable instructions as to its successful management have appeared in former volumes of this Magazine, but such may not be in the possession of every present reader; I therefore hand you a few general remarks on the mode of treatment which has given the most satisfactory results.

Seed can be procured of the seedsmen; sow it on finely-sifted leaf soil and sandy peat; below may be of rougher materials of the same kind, and a free drainage.

Seed may be procured of most of the seedsmen. At the end of February sow the seed. Take equal parts of leaf mould and boggy peat, well broken together; fill one-third of the depth of a pot with drainage, and over it the compost; press the top even, and upon it spread a portion of silver sand—a quarter of an inch will do; sprinkle it with water, sow the seed thinly, and just cover it with sand; then cover it with a bell-glass, and place it in a hot-bed frame. Pot the plants singly, as soon as large enough, in small pots, keeping them in the frame, giving them plenty of water overhead; and if the pots were placed in a shallow trough, or each on a saucer, allowing an inch deep of water, they will be advantaged by it; repot as required, so that they may, by the end of summer, be in large-sized sixties or forty-eights. Water *very sparingly* during autumn and winter, but do not allow one drop to fall upon the leaves. Keep the plants near the glass, in the warmest part of a dry greenhouse, or cool part of a stove. Early in February remove them into a warmer situation,—forcing-pit, or cucumber-frame, &c., to push them a little, and as soon as they begin to grow, repot them "entire balls" into large pots to bloom. They still must be kept in the frame or forcing-house; a moist heat they *must* have, and be liberally supplied with water, new milk warm, and twice a week with liquid manure.—*An Amateur.*

MISCELLANEOUS SECTION.

"Absorption and Fixation of Manure by Earths.—All earths suited to the proper culture of good vegetables in general come under the denomination of loams, which must be understood to comprise varying proportions of sand, clay, iron, and carbonate of lime (chalk), sand and clay being the preponderating constituents. Loams absorb manures, and hold them fast; thus (while themselves being converted to soil) they prepare the decomposable matters that they have absorbed, and bring them into the condition of raw sap—a fluid which the plant can alone attract as its essential aliment. Sand, and that fine earth called peat or moor-soil, though suitable to the hair-rooted tribes, do not retain manures, and therefore are designated hungry, being incapable of sustaining the higher vegetable crops. These facts comprise the leading principles of the sublime theory which it is our object to render plain and comprehensible.

"The dark fluid which runs too much to waste from dung-hills and compost heaps, is fitted for the purpose of experiment; or, in lieu of it, a good substitute can be easily prepared by infusing a quart measure of horse-droppings that have been collected two or three months (and so far fermented as to be somewhat blackened), in a gallon of boiling, pure rain water. As dung in the state described has acquired a portion of the peculiar product of decay called *humus*, two fluid drachms (equal to about a dessert spoonful) of strong liquor of *pure ammonia*, are to be added when the heat is much reduced. The whole should then be stirred repeatedly, and thus left to digest for twenty-four hours, when the ammonia will have united with the humus matter, and a deep brown liquid manure will be the result. It should be clearly understood that any kind of such fluid, however prepared, from the excrements of animals or of poultry, whether recently made and sweet, or in a state of decay and fetid, will answer equally well; but the foregoing preparation is recommended to enable the inquiring operator to 'begin at the beginning,' and thus to make himself acquainted with every individual process. When the mixture has remained undisturbed for some hours after the last stirring, the liquor should be strained through a cloth or flannel drainer, and kept in a bottle or covered jug for future operations."—*J. Towers, Esq., Magazine of Botany.*

IN-DOOR PLANTS.—As the plants are placed in or near windows, there is no injurious deficiency of light; but as it comes to them most intensely on one side, they should be half turned round every day, that their heads may have a uniform appearance, and the leaves be not turned only in one direction. If the window faces the south, the intense heat and light should be mitigated during the mid-day of the summer months by lowering the blind. Whenever the out-door temperature is not below 34°, the plants will be benefited by having the window and door of the room open. They cannot have too much fresh air at any season of the year, if they are not grown under a Wardian case; for the exterior air always contains a due proportion of moisture, whilst the air of a room is as invariably drier than is beneficial to the plants. A due supply of moisture in the air, as well as in the soil, is absolutely necessary to our room plants. To obtain this in the best available degree, little porous troughs, constantly filled with water, should be kept on the stand among the pots; and the saucers of the pots themselves, if made according to Hunt's plan, may always have a little water remaining in them. The application of water to the soil requires far more attention than it usually receives. Room plants mostly are the *protegés* of ladies, who administer water with their own hands, and so long as the novelty and leisure prompt to this attention all goes well; but no room plant ever existed, perhaps, which was not, at some period of its life, left to the tender mercies of a housemaid, with the frequent usual consequences of a deluge of water, cold from the pump, after the roots had become heated and parched by days of total abstinence. Plants so treated cannot flourish. The water should be allowed to stand in the kitchen for some hours before it is applied to the plants, so that it may be as warm or warmer than the soil to which it is to be added. It may be given in dry, hot weather every second day, and in such abundance as to pass slightly through the earth into the saucers. —*American Gardeners' Chronicle.*

GLASS WALLS. HORTICULTURAL SOCIETY'S GARDEN, TURNHAM GREEN.—In our last account of this establishment we announced that the example of Mr. Ewin's glass walls, about which so much interest has everywhere been excited, was put up, though the painting and other details connected with its erection were not quite finished. These are now completed, and it is being planted. In one-half are Vines and Figs, which are intended to be permanent, together with the large plant of Psidium Cattleianum, which formerly grew in a tub in the curvilinear Vinery, and the other half contains flowering plants, such as Camellias, Oranges, Euonymus fimbriatus, Fuchsias, Clematis, Roses, Escallonia macrantha, and things of that description; so that not only will the value of these walls be tested as regards the production of fruit, but also that of flowers. Of their excellence in both respects, there can be little doubt; but of that more hereafter. While on the subject of new fruit-producing contrivances, we may mention that the Peaches on the tree covered by Cottam and Hallen's Peach-frame are not so far advanced as those on neighbouring trees on the open wall. This is somewhat remarkable, inasmuch as very excellent results have been obtained from facing trees with glazed sashes, in other parts of the country. The crop on the rest of the wall is progressing as favourably as could be desired, and the trees are in the best possible condition, being furnished, in most cases, with plenty of healthy foliage to the very ground. —*Gardener's Chronicle.*

VERONICA ANDERSONI.—Early in spring I purchased a small plant, and as it is a quick grower, I repotted into one twelve inches across, in a compost of equal parts of fresh loam, leaf-mould, and old rotten cow-dung, with a sprinkling of bits of charcoal. I placed in a pit-frame till May, and then plunged it up to the rim in the ground in the open garden, where it was duly attended to with water and training. It remained there till the end of September, and then removed into the greenhouse. The plant is erect, four feet high, with side branches from the bottom to the very top, except the last part of the principal leading shoot. Each side shoot has a terminal flowering spike of from three to six inches long, in all fifty-two spikes. The flowers vary in colour according to age, being pale blue, rose, and white. It is one of the most ornamental plants for autumn decoration of a greenhouse, conservatory, entrance-hall, or sitting-room. Small plants, too, I find bloom very abundantly. It is a cheap plant, easy to cultivate, and readily increased by cuttings. It is an hybrid raised between Veronica speciosa and Veronica salicifolia.

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

ROSES and Hollyhocks should be planted immediately, or will not bloom well this year. Add *fresh loam* to flower-beds, it always promotes an abundance of flowers, also give manure, leaf mould, &c. Frost paves the path for it to be done without injury to walks or grass. Have all standard Roses, and other like growing plants, well secured by a stake. Nothing is equal to THE ROSE GIRDLE, sold by Mr. Hamilton, 156, Cheapside, cheap and valuable.

FLORIST'S FLOWERS.—Auriculas and Polyanthuses should only be kept *just moist* (not wet), and be *just preserved* from frost. If the embryo flower be affected by frost, it is always injurious; give air, however, on every likely occasion. Sow seed early this month. Carnations, Picotees, and Pinks in pots require to have air freely, but water sparingly. Protect from excess of rain. Prepare compost for the former *now*.

Pinks and *Pansies* in beds require that the lateral branches are secured by pegs or sticks from injury by wind. Fir or Yew branches, a foot or so high, pricked round or in the bed, is an excellent protection from wind. A sprinkling of soot over the bed tends to preserve Pinks from rabbits and snails.

Ranunculuses and *Anemones* planted last autumn protect from frost. The bed for planting in *next month* should now be turned over for the last time; pick out all worms, and give it a slight sprinkling of lime; then spread the bed evenly, and it will be consolidated by the planting period. *Choice Hyacinths* protect, an inverted garden-pot will do. *Dahlia* roots stored safely from frost are not necessarily secure from decay. The best sorts, if a large stock is desired, will now require potting and placing in the frame. *Tulips* still guard from frost, for they rarely throw up perfect blooms if touched by frost. Divide and replant herbaceous perennials, &c. If autumn sowing of annuals was omitted, now sow some in small pots, place them in a frame, and turn them out in the beds early in April: such will bloom early.

IN THE FORCING STOVE.

Sow seeds of tender annuals, as Cockscomb, Amaranthus, &c., to have them fine specimens for the greenhouse in summer; and Ten-week, Russian, and Prussian Stocks, &c., to bloom early, should be sown in pots, or be sown upon a slight hot-bed; also some other of the *half-tender* kinds, to prepare them strong for early summer blooming.

The Jacobeæ and other Amaryllises, should be repotted; also to have a few early blooming plants of Achimenes, Gloxinias, Gesnerias, &c.,

they should be started, and when beginning to push, separate and pot singly.

Cuttings of Salvias, Fuchsias, Heliotropes, Geraniums, Anagallis, Himimeris, Bouvardia, &c., desired for planting out in beds, should now be struck. Now sow Mignonette, to bloom early in boxes or pots, or to turn out in the open borders.

IN THE GREENHOUSE, &c.

Never give heat to Heaths as long as frost can be kept out by coverings. A few degrees of frost will never injure Cape Heaths, whereas fires are their ruin. Let the air *blow* upon them on all favourable occasions: so with the entire class of *New Holland* plants. Azalea indica required for the purpose of propagation by cuttings, may be transferred to a warm temperature to excite an early growth. Cuttings will be found to root much better *early* in the season than at a later period. Re-pot Cinerarias, Gladioli, Alstrœmeria, Lilium, &c. Calceolarias—re-pot seedlings, strike cuttings. AVOID DAMP.

Fuchsias which have been at rest, and *increase* is wanted, force them into shoots to strike from.

IN THE STOVE.

The plants best adapted for forcing are Roses, Persian Lilacs, Azaleas, Acacia armata, Neriums, Gardenias, Rhodora, Heliotropes, Correas, Deutzeas, Mezereums, Coronillas, Cytissus, Ribes, Mignonette, Cinerarias, Sweet Violets, Lily of the Valley, Cactus, Cyclamens, and the old Eranthemum pulchellum with its fine blue flowers, Justicia speciosa, carnea, and flavescens, Gesneriæ Zebrina, Poinsettia, pulcherrima, and Aphellandria cristata, are fine winter-blooming plants.

BRIEF REMARKS.

UNITY IN LANDSCAPE GARDENING.—Unity, or the production of a whole, is a leading principle of the highest importance in every art of taste or design, without which no satisfactory result can be realized. This arises from the fact, that the mind can only attend, with pleasure and satisfaction, to one object, or one composite sensation at the same time. If two distinct objects, or classes of objects, present themselves at once to us, we can only attend satisfactorily to one by withdrawing our attention for the time from the other. Hence the necessity of a reference to this leading principle of unity. In landscape gardening, violations of the principle of unity are often to be met with, and they are always indicative of the absence of correct taste in art. Looking upon a landscape from the windows of a villa residence, we sometimes see a considerable portion of the view embraced by the eye laid out in natural groups of trees and shrubs, and upon one side, or perhaps in the middle of the same scene, a formal avenue leading directly up to the house. Such a view can never appear a satisfactory whole, because we experience a confusion of sensations in contemplating it. There is an evident incongruity in bringing two modes of arranging plantations so totally different under the eye at one moment, which distracts rather than pleases the mind. In this example the avenue, taken by itself, may be a beautiful object, and the grapes and connected masses may in themselves be elegant, yet if the two portions are seen together they will not form a whole, because they cannot make a composite idea. For the same reason there is something unpleasing in the introduction of fruit-trees among elegant ornamental trees on a lawn, or even in assembling together in the same beds flowering plants and culinary vegetables—one class of vegetation suggesting the useful and homely alone to the mind, and the other avowedly only the ornamental. In all works of art which command universal admiration, we discover a unity of conception and composition, a unity of taste and execution. To assemble in a single composition forms which are discordant, and portions dissimilar in plan, can only afford pleasure for a short time to tasteless minds or those fond of trifling and puerile conceits. The production of an accordant whole is, on the contrary, capable of affording the most permanent enjoyment to educated minds everywhere, and at all periods of time.—*Downing on Landscape Gardening.*

WINTERING CARNATIONS AND PICOTEES.—I observe in a recent number a correspondent complains of his plants being much affected with the black spot on the leaves. It will be more prevalent this excessive wet autumn, and as a remedy, the leaves must all be carefully brushed over with a small soft brush, and carefully cut away any decayed leaves, or points of such. Keep them clean by a repetition of this attention once a fortnight, and give all possible air to the plants (only save them from wet overhead) at front and back, so that a current passes through; by this means the plants will become what is termed "stocky," robust, and not spindled up weakly ones. If the frame faces to the north it is best, as it tends to keep the plants back, and to become stiff and bushy. If a little sulphur be sprinkled on each dark spot, it will stop its progress.—*An Old Practitioner.*

IRRIGATING LAND.—The following remarks were drawn up more particularly in reference to Agriculture; but as the principle will equally apply to Floriculture, &c., we therefore introduce it into our pages.

Irrigation.—The mode in which irrigation benefits meadows is still doubtful; but I have no doubt whatever that the phenomenon is a complex and not a simple one; I mean that the causes of action are more than one, or even than two. It is important to clear up this point, as by doing so we shall then understand better how to proceed with the investigation in future. The deposition of solid matter held in suspension is unquestionably one principle mode of action, but assuredly not the only one, for a clear spring issuing from the hill-side sometimes begins to act at once upon vegetation as it were from the cradle. Not only are the waters of a muddy river and of a crystal brook different, but, as Sir Stafford Northcote's gutterer, Mr. Ellis, informed me, the effect is distinct and sometimes opposite. A thick stream, experience shows, improves the condition of land—a clear stream may even impoverish the soil, though it brings the Grass forward. There is no paradox here, if we consider that the turbid water adds permanently to the soil: the clear water, by stimulating the herbage, occasions elements of vegetable life to be withdrawn from it. If successive crops then be removed without any return of manure, the natural result will be impoverishment. It is certain, moreover, that clear water itself has two modes of action. First, by salts, it may hold in solution ammonia, for instance, derived from the farm-yard, and very probably also ammonia brought up by deep-seated springs from the depths of the earth. Here let me remark, since landowners have, I know, been deterred from attempts at irrigation by the absence of lime from their streams, that while, on the one hand, streams flowing from chalk hills are undoubtedly good, softness, on the other hand, is the test of the best water in Devonshire, the classic land of hill-side irrigation. The remaining cause of action is certainly warmth, and even here the action may be also a double one. Warm springs, it is well known, are the most effective, imparting, no doubt, their temperature to the ground; but all streams probably, when made to pass over land, impede the radiation of heat; that is, check the escape of warmth from the ground. Whatever the cause may be, the effect of irrigation in improving land far exceeds any other known method. Some time ago, I gave a statement of the number of sheep kept by me on a water-meadow, which was thought by many to be a mistaken one. I can now say, that this year the yield of my water-meadows has been further increased; and that on a piece of poor peaty land, recently irrigated, the fifth crop of Italian Rye-grass has been already severed, two crops being cut and three fed off; all the crops bulky, and produced by the simple stream only, not by any liquid manure. The application of the water in dry summers is, I find, an important advantage gained in addition. I said formerly, that it involved some risk of rot to the sheep, and I did not escape the rot altogether myself two years ago; but, by using more precautions, I find the advantage greatly preponderate. If, as appears, land can now be irrigated at the cost of 1*l.* per acre, the profit will be at least 100 per cent.; for no farmer can doubt that the yearly value of the land must be increased to the extent of 1*l.* at the lowest. I must, therefore, once more advise those who have streams at command, and poor land that can be flooded, to examine for themselves the west country catch-meadows, especially those recently made by Mr. Smith upon Exmoor.—*Mr. Pusey, in the Journal of the Agricultural Society, Vol. XIII.*

VEGETATION OF THE CAPE OF GOOD HOPE.—The passage from India to the Cape of Good Hope had been so short, that the mind still retained a lively impression of the former. What a contrast was thus produced! Instead of the dense jungle there appeared a ridge of mountains but thinly covered with verdure; instead of the large foliage of the tropics, low, hard-leaved bushes; instead of the noble timber, no trees except those taken by man under his particular care; and instead of the elegant festoons of airy Rattans, the leafless Vrouwenhaar (Cassyta filiformis, Linn.), which, as if to humble the pride of that tribe from which poets are wont to select their wreath, hangs slovenly over the branches of the Rhus glabra. Nevertheless, to a European the Cape flora presents a most pleasing aspect. He is no longer perplexed, as in the forests of equinoctial America or Asia, by the curious habits and strange foliage of the vegetation, but meets at every step forms which have for centuries not only been cultivated in botanic gardens, but have become naturalized in every cottage of his native soil; the Heaths, the Ice-plants, the Geraniums, the Callas, and many others, are welcome sights, recalling to mind many a happy scene; and even the botanist, if on one hand he must regret that he fails to discover additional genera and species, on the other, cannot but rejoice that his favourite science has already made such progress as to render so remote a portion of the globe, in aspect at least, familiar. The neighbourhood of Simon's Town consists of a ridge of rugged mountains, which are chiefly composed of sandstone, and present, especially during the dry season, the time of our visit, a barren and uninviting appearance. Like many similar localities, however, it is very productive, and, on account of its climate, by far richer than the vicinity of Cape Town. Proteaceæ are particularly abundant. The Protea cynaroides, Linn., may be seen in the greatest perfection, producing heads frequently more than eight inches in diameter. It is, however, less frequent than its congener, the Protea grandiflora, Thunb., which indeed is so common that it imparts a bluish hue to some places, and thus forms a peculiar feature in the landscape. The colonists call it Wagenboom, and employ its wood to make felloes, a purpose for which, on account of its toughness, it is admirably adapted. The Wagenboom is from eight to fourteen feet high, and supplies, like several other Proteaceæ, the principal fuel of Simon's Town. We can hardly reconcile ourselves with the idea that any one should be so inconsiderate as to cut down plants which we esteem so highly, and on whose structure and cultivation so many learned treatises have been written. I must confess that when witnessing the proceeding for the first time, my feelings were almost akin to those of a soldier in a certain comedy, who, on entering France, discovers to his surprise that even the children speak French, a language which hitherto he had considered merely as an accomplishment of adults. I was much struck with the Myrica cordifolia, Linn., which covers whole tracts of the downs, and appears at first sight to be about two or three feet high; on a closer inspection, however, it becomes evident that what seems to be little bushes are only the branches of subterranean trees! I succeeded in freeing several from the sand—not a very difficult operation—and found regular stems creeping a few inches below the surface, and attaining, in some instances, as much as sixty feet in length. The plant performs, therefore, the same office at the Cape as several Carices in Northern Europe—that of keeping down the loose shifting sand. Another plant, which both man and nature have applied to the same purpose, is the Paarde Vygen (Mesembryanthemum edule, Linn.). On the road between Simon's Town and Wynberg whole acres are planted with it. The vernacular name of the latter, I may add, has occasionally been confounded with that of an allied species, the M. acinaciforme, Linn. The plant called Hottentots' Vygin or Paarde Vygen (Hottentots' Fig or Horse-fig) is the M. elude, Linn., while that termed Zyre Vygen (Sour Fig) is the M. acinaciforme, Linn, and not *vice versa*, as some authors have it. The ravines proved at this season the most profitable localities, abounding in Lobeliaceæ, Epilobium villosum, Thunb., a supposed variety of E. hirsutum, Linn., Gomphocarpus fruticosus, R. Br., Psoralia pinnata, Linn., P. aphylla, Linn., Richardia Æthiopica, Kunth, Ferns, Briza maxima, Linn., Nerine Sarniensis, Brunias, Lycopodia, Phylicas, Jungermannias, and the Kweek grass (Cynodon Dactylon, Pers.). The latter forms an excellent turf, and seems to stand a remarkable degree of drought without changing its natural colour. The Richardia (Calla) Æthiopica is called Verkensbladen (Pigs'-leaf). The colonists tell an anecdote of it which shows what a mere name may sometimes do. A lady of the Cape, who visited Holland, was invited to see a most beautiful plant from her own country. She was conducted to a greenhouse, and the proprietor was just on the point of delivering an eloquent panegyric, when the visitor exclaimed: "Why, these are nothing but pig leaves!" The Dutchman was quite shocked that any one should have such bad taste as to apply to so fine a production such an unpoetical name. Yet it is a question which of the two, Richardii Æthiopica or Verkensbladen is the most expressive; the one indicates the native country, the other the use of the plant. Swine are very fond of the leaves of this plant. On Thursday, March 13th, Messrs. Zeyher, Rour, and Juritz, and myself ascended Table Mountain. Mr. Ecklon would have joined the party, but being far advanced in years, and debilitated by a prolonged residence in a hot country, he feared that he should not be able to reach the top. We started at dawn, and took the usual road up the kloof. Never have I enjoyed an excursion so much. The day was beautifully clear, the company delightful, and Mr. Zeyher made so many interesting remarks on the different plants, that time seemed to fly with more than its usual speed. At an elevation of 1,000 feet we found a grove of the Leucadendron argenteum, R. Br., which produces its branches in whorls, and with the regularity of the pine. It is the only indigenous tree I saw in the Cape Town district; for the Virgilia Capensis, Lam., which is frequent, has been brought, according to Mr. Zeyer, from some distant part of the colony, and the others from Europe, Asia, America, Australia—in fine, from every part of the globe. A strange mixture, indeed, is thus produced. Here stands a tall Eucalyptus near the Populus tupa, there the Nicotiana glauca in company with the Cypress of the Levant and the Casuarina of the Indian Archipelago; all apparently growing as vigorously as in their native soil. It was nearly ten o'clock when we reached the summit. Most places generally fall short of the expectations formed of them, but never was I more disappointed than with Table Mountain. During my travels I have visited several mountains far more deserving of renown than this; the Montana, or Galera de Chorcha, in Veraguas, is certainly more regular, larger, and bolder in outline. The view of the town, the bay, and the island, however, and the surrounding flora, made up in some measure for the disappointment. Having taken our breakfast near a little fountain, we commenced ransacking the platform. The Disa ferruginea, Swartz, was plentiful; but of the Herschelia cœlestis, R. Br., one of the rarest plants of the country, only a few specimens could be found, as some previous visitors, probably attracted by its lovely colour, had gathered a whole bunch, which they had left behind. On descending a few hundred feet we came to a valley. There the Disa grandiflora, Linn., probably the finest of all terrestrial Orchideæ, grew in great perfection on the sides of rivulets, places which during the wet season are entirely under water. We collected a sufficient number of specimens, and continuing our ramble, met with the Erica lutea, E. cornuta, E. glutinosa, Harveya tubata.—*Seemann, in Hooker's Journal.*

New and Superb Carnations and Picotees. *Carnations.*—General Mack, Puxley's, C. B., Friar Lawrence, May's, R. F., Acca, Puxley's, S. F., Poor Tom, May's, R. F., Benedict, May's, R. F., Magnificut, Schofield's, R. F.

Picotees.—Lady Macbeth, May's, heavy red-edged, Lavinia, May's, medium-edged red, &c., &c.

Theodore (Buswell), heavy-edged red.
Ann (Schofield), ditto ditto.
Bianca (May), heavy P. E.
Bridesmaid (Matthews), light ditto.
Countess (Fellowes), heavy ditto.
Diadem (Fellowes), ditto ditto.
Haidee (Fellowes), light ditto.
Lady Franklin (Merryweather), light purple edge.
Calliope (May), medium rose edge.
Julia (May), heavy scarlet edge.
Rosalind (May), medium rose edge.
Unexpected (Marris), heavy rose edge.
Victoria Regina (Marris), heavy scarlet edge.

We pride ourselves upon growing a *selection*, and we would not willingly introduce a second-rate into our stock. Some of the above are of the rarest magnificence, as may be readily imagined when we state, Lady Macbeth excels in splendour the far-famed Mrs. Norman; and fine as the light purples at present in cultivation are, Ophella, Ganymede, &c., Bridesmaid and Haidee completely distance them. In heavy roses, Julia is exceedingly fine, and Marris's Victoria Regina, now at length, after our long patience, to be had, queen-like, *leads the class.* Of flowers *out* last season, add to your collection Ringleader (Marsden), S. B. It is a "Curzon" flower, fine in form and texture, bright in colours, and well defined. Companion (Netherwood), P. F., a northern variety, and Warrior, C. B., a Lancashire flower, we have a good report of; but these we have not seen.—(*E. S. Dodwell, Midland Florist.*)

Preparing Pelargoniums for cutting-down.—This treatment is an essential one in the proper cultivation of this admired flowering-tribe. To do this aright is not generally known, and of course not practised. To continue watering them, as heretofore, up to the time of cutting-down is wrong, and the stems left will rarely break freely, and the entire plant is much injured, and often perishes. When the plants have done blooming, place them in an open situation, but where rain will not fall upon them, and for a fortnight, at least, do not give them any water, or lay them down on their sides, which will answer too. This process tends to lessen the sap and retard its motion, the perspiring and elaborating influences render the shoots in proportion more firm, and the sap becomes duly organized. It is essential always to get the stems well ripened, and then the plants, and cuttings too, will, under due treatment, answer every expectation. After this preparation, cut in the shoots to as few buds as you please, *all* will push shoots—but when the stems are unripe and fleshy, perhaps one bud might push, and even such rarely grow well afterwards. When the ripe wood has been shortened, do not give water for a few days after, then only a little, in four or five days a little more, and the new shoots must break their buds before a regular watering is given. When the shoots are an inch or so long, the plants will require repotting, and the extra new shoots be taken away.

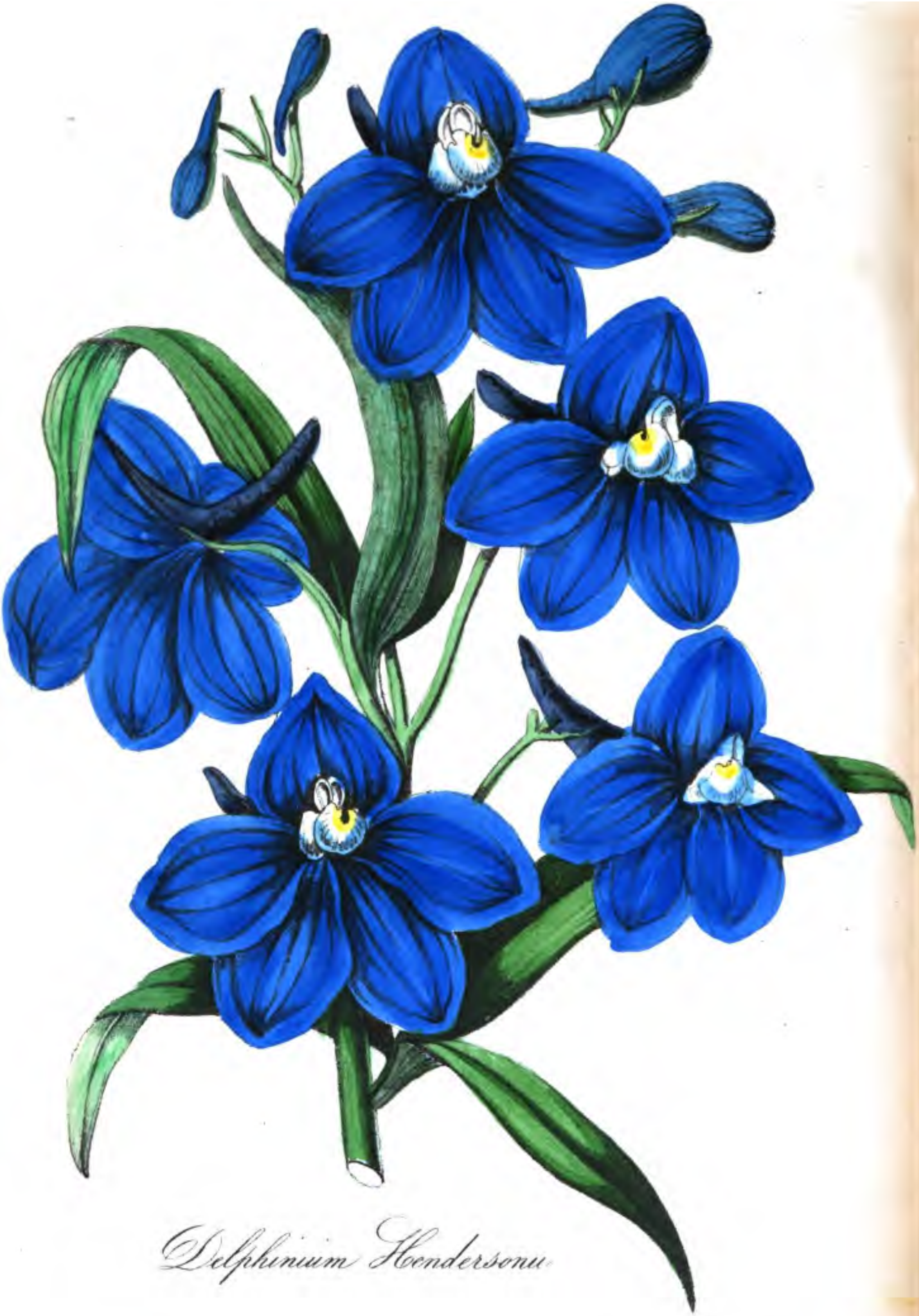
AN EXHIBITOR.

PINK BEDS.—I am an old Pink-grower, in a northern county, where the perfect full lacing of every petal is a desideratum. In this particular, we northern florists excel the southern considerably—such are my conclusions from what I have seen at the London exhibitions. Now, in order to have full perfect lacing, let the plants have food to induce it; give the bed about eight inches deep of *old* rotten dung to the same depth of good loam. If you do this at the end of July, let the bed settle, and at the end of August plant in it. In February following, lay three or four inches more dung over the surface of the bed, and just cover it with good loam; the rains will filter through it, and *laced* flowers you will have to perfection. Of course where the buds are too numerous, they are thinned, one only to each stem, and one of these too are cut away. I also grow some of the best in similar compost, in large pots, with success, though never had the blooms as large as the others—but it affords the advantage of getting the blooms forward, or keeping them back, for an exhibition. A NORTH COUNTRY FLORIST.

DAPHNE INDICA RUBRA. This is a capital plant for the greenhouse, blooming much freer than the white-flowered, and it is of easier culture. I am a Covent-garden Florist, and grow a vast number for the purpose of its cut flowers. It strikes freely from cuttings of the new shoots, cutting them off with a small portion of the old wood—that is, as close to it as possible, and insert them in silver-sand, sinking the pot in a medium hotbed, and covered with a bell-glass. The readiest method to get blooming plants, is to have a number of the common Daphne laureola, in pots, and graft the D. indica rubra upon these stocks, doing it on the tongue system. The pots should be placed in gentle bottom heat, and the union is soon effected. The strong plants having bloomed, have all the shoots cut back to about one-half their length, and then are placed in a gentle hotbed-frame, or forcing-house, and when the new shoots are just beginning to push, the plants are repotted, in equal parts of peat and leaf-mould, having a liberal sprinkling of silver-sand. When the shoots have pushed a due length, the ends are stopped, they push again and are stopped; then they are removed into the open air in a sheltered situation, open to the sun, to ripen their wood, and then removed to a shady border till the end of September, when they are taken into a greenhouse, and a portion forced successively as wanted. J. B. S.

CAPE PELARGONIUMS.—On a former occasion I sent some observations on this very interesting and pretty tribe of plants. During the past season, there has been a marked improvement in the specimen shown, both in the form of the plants, and the freedom of bloom. Under the term "Cape Pelargoniums," of course are included, as usual, several genera, besides Pelargoniums, as Campylia, Phymatanthus, &c. One of the exhibitors, "a celebrated one," gave me the following particulars of his mode of culture: compost, one part of year old turfy-loam to two of peat, with a portion of old rotten cow-dung, and a liberal sprinkling of white sand; also a free drainage. A few bits of charcoal, or broken stones are scattered amongst it. After the plants have done blooming, water is gradually lessened, so as to give them a resting season. This class of plants has not, "generally" numerous roots, so that due care is necessary not to over water them. Some kinds are liable to become naked, but this class of plants bears cutting in, and somewhat bushy plants, as were the collection my friend exhibited the past summer. I have taken descriptive notes of a number, which I will forward for the nexth month's Magazine.

A LONDON MERCHANT.



Delphinium Hendersonii

FLORICULTURAL CABINET

FEBRUARY, 1853.

ILLUSTRATIONS.

DELPHINIUM HENDERSONII.

THE generic name *Delphinium* is derived from the Greek, *Delphin*, signifying a *Dolphin*, because the flower-buds, before they are expanded, in shape resemble that fish. Its common English name of *Larkspur* has been given, in consequence of the horn-shaped *nectary* of the flower being in form like the spur of a lark's foot. It also is called Lark's-claws, Lark's-toes, and Lark's-heel. In France it is also called Knight's-spur, and Royal Comfrey. In Italy, Little-spur and King-flower.

Gerard mentions the Larkspur amongst the flowers which were cultivated in the reign of Queen Elizabeth, but he does not seem to have been acquainted with any in its *double* state. In the early part of the seventeenth century there were one or more varieties having *double* flowers, and which, we are told, were eagerly sought after. It appears to have been about the period when the *florimania* raged to such excess amongst the Dutch that the first *double* ones were raised, as we find the double-blossomed noticed by Parkinson, in 1629, who speaks of the great varieties of colours in these *double*-flowered Larkspurs; and he remarks, that the loss of the spur occurred when the blossom was double. From the *blue*-coloured flowers a good ink has been made, with the addition of a little alum.

That a flower of so much elegance of shape and so beautiful in the variety of its colouring, as the Larkspur is, should have been suffered to pass unnoticed by English poets, appears surprising; for the lively and delicate hues of the flower—as blue, rose, violet, white, pink, lilac, &c., produce a most beautiful appearance in the flower-garden, either grown singly or in masses. A bed of the dwarfer sorts of mixed colours is exceedingly handsome when in bloom.

In floral language, the Larkspur is made the emblem of *lightness*—

an appellation which the graceful airiness with which these flowers are placed on the branches truly justifies.

This fine flowering genus now contains fifty-eight hardy herbaceous perennial species and varieties, besides the numerous annual ones. Some of the perennials grow from six to eight feet high; their very long spikes of flowers are very ornamental, and at the back part of a boundary border of a flower-garden have a very interesting appearance. The dwarf-growing are admirable for the beds of mixed perennials, and deserve a place in every flower-garden.

Some *very superior* varieties have been raised within the last few years; viz., Beauty of Charonne, Mooreii, Wheelerii, Weltonii, Fulgens, Magnificum, and the one we figure in our present Number, viz., D. Hendersonii. It was raised by M. Chauviere, nurseryman of Paris, from D. chinense, impregnated by D. elatum-splendens. It is of a *bushy* habit, about eighteen inches high, fine large foliage, a *profuse* bloomer, and continues flowering to the end of summer; we had it in fine bloom at the end of October. It is an admirable plant for a bed, or grown singly, and ought to be in every flower-garden. Its very large rich blue blossoms, with such a distinct white eye, are exceedingly pretty. It was sent out last year by Messrs. Henderson, of Wellington Nursery, St. John's Wood.

NOTES ON NEW OR RARE PLANTS.

Abelia uniflora.—Messrs. Standish and Noble received it from Mr. Fortune, who discovered it in the north of China. It is a spreading small shrub, having perennial, broadish lance-shaped leaves, about three inches long. The flowers are produced two or three together on one principal footstalk, which arises at the base of each leaf. They are borne in profusion for several inches of the terminal portion of the numerous shoots. Each flower is somewhat funnel-shaped, the tube being an inch long, terminating in a five-parted spreading mouth (limb), white, tinged with rose. The calyx leaves are of a rich brown-red, and form a pretty contrast with the corolla. The abundance of flowers give it somewhat the appearance of a narrow-leaved Weigelia rosea in profuse bloom. It flourishes in the open ground in the nursery at Bagshot, and proves to be a charming acquisition. (Figured in *Bot. Mag.*, 4,694.)

Alstromeria plantaginea.—Mons. de Jonghe, of Brussels, obtained this very handsome flowering species from Brazil. It is a herbaceous plant, with erect stiff stems, each terminating in a large umbel of flowers. Each blossom is an inch and a half long, bell-shaped, a deep orange outside, yellow within, tipped with green, and spotted with longish dots of rich brown. It is exceedingly handsome, and ought to be in every collection. It requires a similar treatment to the general stock of Alstromerias. (Figured in *Flora des Serres.*)

Aquilegia Kanaoriensis (Kanaor Columbine).—Dr. Thompson sent this plant from Western Himalaya to the Royal Gardens of Kew. Somewhat resembles our common Columbine, but of a dwarfer habit.

The flowers are of a purplish-blue, and the points of the petals tipped with white. (Figured in *Bot. Mag.* 4,693.)

Begonia rubro-venia (Red-veined).—This very pretty species has been sent from Bootan to Thomas Nuttall, Esq., of Rainhill, near Preston, in Lancashire. It is a dwarf-growing plant, having largeish leaves, and the red floral stems, rising about nine inches high, each terminating in a corymbous head of blossoms. Each flower is an inch across, and the two inner sepals are pure white, whilst the other two, larger in size, are white, beautifully veined with red, having a very interesting appearance. Like most of the Begonias, it is a valuable plant for winter and early spring ornament. (Figured in *Bot. Mag.* 4,689.)

Begonia Thwaitesii.—This very handsome new species has been sent to the Royal Gardens of Kew by Mr. Thwaites, Superintendent of the Botanic Garden at Peradenia, in Ceylon. The floral stems only rise about four inches high, terminating in a head of blossoms, white tinged with pink, each flower an inch across. The leaves proceed direct from the crowns of the thick fleshy roots, each footstalk about four inches long, and the heart-shaped leaf about five inches across. When young the upper side is of a lively green, edged with rosy-red, having several irregular formed markings of a different green, and the under side is of a bright rosy-red. When the leaves have attained their full size, the upper side is of a glaucous green, having a broad, deep red-purple edging, and there are several irregular bright green markings over the surface. The under side is of a rich red-purple, with several bright green spots. The leaves of the plant are exceedingly handsome, and render the plant deserving a place in every stove. (Figured in *Bot. Mag.*, 4,692.)

Colens Macraei.—Mr. Thwaites sent this Salvia-like flowering plant from the Botanic Gardens in Ceylon to the Royal Gardens of Kew, where, in the stove, it bloomed in profusion during the summer and autumn of 1852. The leaves are oval, large, green above, beneath of a deep purple, producing a fine appearance. The flowers, somewhat salvia-like, of middle size, are white, with a large purple blotch on the upper lip, and are very pretty. The flowers are produced very numerously in large rosy-purple coloured stalks, branching panicles, and for a considerable period. It forms a fine numerously branched plant, two to three feet high. (Figured in *Bot. Mag.*)

Comaclinium aurantiacum (Synonyme, Tithonia splendens).—A half-hardy perennial plant, belonging to the natural order of composites, and has much the appearance of an African Marigold, having scarlet Zinnia blossoms. Mr. Van Houtte, of Belgium, received it from Central America, and during the last summer it was planted out under a wall in front of a stove and bloomed beautifully. It grows from one to three feet high, branching and flowering freely.

Dielytra chrysantha (the Golden-flowered). The lamented Douglas first discovered this plant in California; but recently Mr. Lobb met with it in California, and sent seeds to Messrs. Veitch, of Exeter, in whose nursery it has bloomed. It is a hardy perennial; stem tall, leafy, branching. The foliage is finely cut, like others of the Fumarias, of a glaucous-green. The flowers are produced numerously in stiff branching large panicles, and are of a rich golden-yellow colour. Each blossom is about an inch long, and stands erect, not drooping like those of Dielytra spectabilis. It is very handsome, and merits a place in every flower-garden. (Figured in *Paxton's Flower-Garden*, 103.)

Fuchsia miniata.—A native of New Grenada, somewhat like F. venusta, having long tubular flowers. The tube is a rich red, sepals same, tipped with green, and the corolla scarlet. Mr. Linden introduced it into Belgium.

Lœliopsis domingensis.—This very pretty flowering orchid was originally found on trees in St. Domingo by Mr. Makenzie. It has recently bloomed in Messrs. Henderson's orchid-house at Pine-apple-place Nursery, at Mr. Rucker's, and Mr. Farmer's, of Nonsuch-Park, in Surrey. Each flower stem rises about a foot, terminating with a head of about eight blossoms; sepals and petals lilac, and the large labellum is a rosy-red, with the inside of the tubular part white, with a stain of yellow. Each flower is about an inch and a half long, on a footstalk an inch long. It is exceedingly pretty. (Figured in *Paxton's Flower-Garden*, 105.)

Lilium canadense, var. occidentale.—This is a native of California, with flowers in form like the Scarlet Martagon. They are of an orange-colour, spotted numerously with crimson. It has long grassy leaves, and as many as ten in a whorl around the stem. It is very handsome, and was introduced by the Horticultural Society.

Meriania Karstenii.—A stove plant belonging to the Melastomads. Each flower is as large as an apple-blossom, of a rich crimson colour. Mr. Van Houtte says it is a rival to the splendid Pleroma elegans. It deserves a place in every stove.

Rhododendron Louis Phillippe.—A magnificent *hardy* hybrid between R. ponticum and R. arboreum. It is a very free bloomer, and the blossoms are of a brilliant crimson-red colour, beautifully spotted with rich dark purple. This very superb variety was raised by Mons. Bertin, of Versailles, ten years ago, but only first bloomed in 1846. Plants can now be purchased, and it merits a place in every collection of such like shrubs.

Rogiera cordata (Synonyme, Rondoletia cordata). A very handsome blooming stove shrub, the flowers being produced in cymous heads of a beautiful rose-colour. It has been introduced by Mr. Van Houtte, of Belgium, and is a valuable acquisition, being a charming companion to the handsome Rondoletia speciosa major.

Senecio concolor.—A native of the Cape of Good Hope. The flowers are in form much like a Cineraria, two inches across, of a rich purple colour. It is a charming herbaceous greenhouse plant, blooming from the beginning of August to the end of summer. It will prove to be a capital bedding plant also. It is in the Horticultural Society's garden.

Siphocampylus penduliflorus.—It is a half-climbing hot-house species, with beautiful rose-coloured flowers, which are produced, when the plants become well established, in profusion. It is a charming species, and its climbing habit distinguishes it greatly from any other species. M. Linden introduced it into Belgium; Mr. Van Houtte has had plants of it in bloom.

Spathodea campanulata.—This magnificent flowering plant belongs to the *Begonia* order. It is a native of Western Africa, from whence it was first introduced by Mr. Whitfield. It is a stove plant, having Ash-tree-like foliage. The flowers are bell-shaped, but when fully blown are very similar to a Tulip when over-blown. They are produced in large racemes, each having from six to eight blossoms. The flowers are of firm, leathery substance, and of a fiery-orange colour. Each blossom is about five inches across, and numerous large panicles of such fine splendid blossoms render it highly ornamental. A fine plant of it has bloomed at Chatsworth.

CULTURE OF THE RANUNCULUS.

BY MR. CAREY TYSO, FLORIST, WALLINGFORD, BERKSHIRE.

The very beautiful, gaily-coloured Ranunculus, that gives such splendour to our vernal parterres, is a species of Crowfoot, that grows naturally in Persia, and other eastern countries, from whence it has been brought to beautify our own highly-favoured island.

The Turks cultivated the Asiatic Ranunculus at Constantinople for several ages before it was generally known in other parts of Europe. In their language it is called Tarobolus Catamarlale, and their account is, that a vizir, named Cara Mustapha, who delighted to contemplate the beauties of Nature in solitude, first observed amongst the herbage of the fields this hitherto neglected flower, and wishing to inspire the then reigning sultan with a taste for flowers similar to his own, he decorated the gardens of the seraglio with this new flower, which he soon found had attracted the notice of his sovereign, upon which he caused it to be brought from all parts of the east, where varieties could be found. But enclosed within the inaccessible walls of the seraglio, those flowers remained unseen by the rest of the world, until bribery, which surmounts the loftiest towers, and breaks the strongest bolts, entered the palace of the sultan, and secured the roots of these highly-cherished plants, which soon afterwards flourished in the gardens of every court in Europe.

French writers, however, state, that this charming flower was one of the fruits of the Crusades, and that St. Louis first brought it into that country. This would be as early as the middle of the thirteenth century. In the time of Queen Elizabeth, Gerard tells us, in his "Herbal" of that reign, "that one kind of Ranunculus groweth naturally in and about Constantinople, from whence there hath been brought plants at divers times, but they have perished by the long journey, or want of skill in the bringers." Clusius saith, however, that he *then* received "a plant fresh and greene, the which a domesticall theefe stole forth of his garden." The Dutch, who studied floriculture as an art connected with trade, soon obtained it, and turned the cultivation of the Ranunculus to a profitable account. The English, however, have raised a far greater number of beautiful varieties than any other nation, and during the last century the flower was held in high estimation, and was deemed the handsomest ornament of the flower-garden. Since that period its charms have increased with each following year by the addition of still more perfect formed flowers, and of increased beauty, justly entitling them to a place in every flower-garden.

Agreeable to the request of a correspondent in this Magazine, that I should furnish some particulars respecting the Ranunculus, and give a list of a few of the best varieties, I have sent the present communication; and the following observations relative to its treatment are suitable for this season:

The earliest claims on the attention of the cultivator of this charming flower are the procuring of good sorts, and the preparation of the bed to receive them. Were this the middle of summer, I should recommend the turning of compost to fit it for a bed to be prepared in September, to be no more disturbed till the planting season; but as it is February, I should recommend to those who have not prepared their bed, to follow a plan laid down by Mr. Brown, of Marlborough, about twelve years since, and more recently commended by Dr. Horner. If the natural soil of the garden be not loamy, and of somewhat holding quality, then such soil should be obtained and placed in a ridge, adding about one-fourth of good rotten stable or cow manure, and mixing them by several turnings, and exposing to the air and frost till pulverised. Then procure for a twenty-feet bed two barrows of fresh cow-dung, and put into a tub, add soapsuds or water from a drain or ditch, and stir it a few times till reduced to the thickness of cream, or as thick as it will admit of being poured. Excavate your intended bed twelve or fifteen inches deep, put in a layer of compost, and pour over a coating of liquid manure, then another layer of compost and coat of manure, till you reach three inches off the surface; then fill up with rich loamy earth, in which the manure is more decomposed and amalgamated than is needful for the subsoil. This operation may be done in any dry weather before the middle of February. After ten days allowed for settling, the tubers may be planted in drills an inch and a half deep, and from four to five inches apart. The last fortnight in February is a good season for planting. The roots should be pressed rather firmly in the soil, and, if *severe* frost follows, the bed should be boarded over, or otherwise covered, for a week or two. As the tubers absorb a large amount of moisture prior to vegetating, and swell two or three times their original size, they are in this state more susceptible of injury from frost than after a month's growth.

The following are *very excellent* kinds:

INDICATOR, yellow, with brown spots.
EXHIBITOR, yellow, with carmine spots.
MRS. AYRZEE, white, and crimson edge.
SIR HENRY POTTINGER, white, purple edge.
ELIACINE, white, purple edge.
ENCHANTER, yellow, red edge.
MARQUIS OF HERTFORD, crimson.
SIR JOHN DE GRÆHME, cream, red edge.
MRS. NEILSON, white, crimson edge.
FESTUS, yellow, coffee edge.

John Waterston, white, purple edge.
Director, yellow, red edge.
Coronation, buff, red mottled.
Pleaser, yellow, red edge.
Salome, sulphur, crimson edge.
Prefect, yellow, sometimes slightly mottled.
Flaminius, yellow, red spot.
California, yellow.
Manifesto, white, purple spot.
Preceptor, cream, rose edge.
Interestos, white, crimson edge.
Apollo, crimson.
Sabina, yellow.
Naxara, very dark.
Pearl, white.
Gomer, yellow, brown edge.
Hamlet, yellow, brown spot.
Melange des Beautes, red, and yellow stripe.
Temeraire, red, and white stripe.
Countess of Eglintoun, white.

ON HERBACEOUS ERECT-GROWING LOBELIAS.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

This most charming section of Lobelias ranks among the foremost as bedding-plants, and highly merits a more extensive cultivation than at the present period they have. A few remarks upon them, with a description of a few choice varieties, may (I trust will) induce some of the readers hereof to give these fine plants a trial in their flower-gardens. I am confident they will, if properly managed, produce an effect that will highly please.

The plants flourish in any *rich* garden mould. When grown in clumps, say two or three plants together, at about eighteen inches apart, plant from plant, nothing, in my opinion, has a more charming appearance than a few such clumps in the back-ground borders of a flower-garden. They may be planted in clumps, say eight feet apart, clump from clump; the colours of the clump may vary,—say the first have white-flowered; second, a violet; third, red; fourth, blue, &c.; in this way the effect would be very pretty, and produce a splendid effect. When grown in *beds* in masses, planted not more than eighteen inches apart, plant from plant, I recommend each bed to be of one colour. They should be planted out the first week in May, and then will begin to bloom in July, and their beauty will continue through all the autumnal months; so that when the general show of flowers is over in the garden, these will still be highly ornamental and gay.

When the borders or beds require digging up at the end of autumn, the Lobelias must be taken up with a moderate ball of soil to each, be potted, and well watered, then be taken into the greenhouse or conservatory, where they will bloom for a long period. Thus housed and disposed of amongst other blooming plants, as Chrysanthemums, &c., they have a very striking appearance.

The vigorous-growing, showy, rich-coloured Lobelias have a pretty effect when grown in the front part of a shrub border, especially so in autumn. Those persons who prize the floral beauty of an autumnal garden, I recommend to plant in the front part of the shrubbery borders a few of the most brilliant Lobelias, some Chrysanthemums, and Gladiolus gandenensis and its fine varieties, arranging the whole so as to produce the best contrast with colours; thus grown, they produce a fine show till winter arrives.

Lobelias are easy of increase by division of the offsets, having two shoots to each part; pot them, and place them in a cool frame during winter, just preserved from frost, and by next turning-out time, with due attention to re-pot, if necessary, &c., they will be strong plants. In dry seasons the Lobelias require a *liberal* supply of water.

Azurea.—Beautiful light blue, fine flower, dwarfish grower.

Ajax.— Fine damson colour, vigorous grower, very distinct and pretty.

Vierge Marie.—Beautiful white, fine spike and habit.

Favourite.—Handsome violet colour, strong grower, and an extra fine flower.

Agathocles.—Fine violet-crimson, large spike, and superb flower.

Episcopal.—Fine light blue, and a splendid extra flower.

Cœlestus.—Beautiful violet-plum colour, good flower and habit.

Etoile du Matin.—A fine violet colour, of excellent form, dwarfish habit.

Belle Pyramide.—A beautiful rich plum-crimson colour, large lossoms, extra fine variety.

Vesuvius.—A violet-crimson, of beautiful form and good habit.

Victoria.—A rich scarlet-crimson, fine form, dwarf habit. This is the most gorgeous flower of the new varieties.

Magnificent.—A rich crimson-scarlet, flowers very large, and the plant grows five feet high, having numerous side spikes.

The above varieties are new, and quite an improvement on previous sorts.

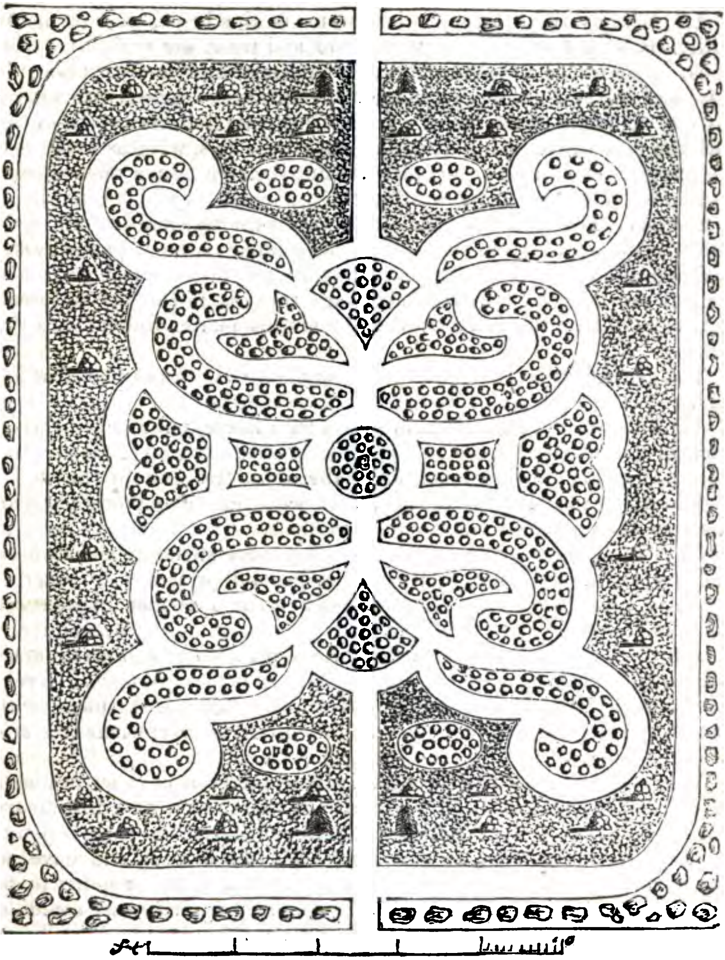
The following are older varieties, but well meriting a place in every collection:

Insignis, bright scarlet. Marmorata, bright light blue. Constellation, crimson, small but very pretty. Siphilitica, light blue. Siphilitica alba, pure white. Propinqua, blood-crimson. Longiflora, violet-plum, very branching. Compacta, superb light blue, very fine. Amœna, blue and white, of dwarfish habit, and pretty.

Most of the latter varieties may be purchased at a low price, and in the ensuing spring the newer kinds will, no doubt, be offered at prices within the reach of all desirous of growing this charming section of Lobelias, and I hope many lovers of ornamental flowers will grow them, as they possess many advantages which the generality of other bedding-plants do not; viz., being quite hardy, the length of time in bloom, and the great variety in colour, as the above description contains a pure white, blue of various hues, down to a deep crimson. A circular, or oval bed, with the tallest spikes in the centre, and others gradually declining to the sides, have a fine effect. A bed should be well filled; grown wide apart the effect is, in proportion, poor.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 2.



The above design for a flower-garden, laid down on grass, is intended to be enclosed by a shrubbery, with a five-feet walk inside all round; the beds are intended to have box-edgings, excepting the four oval clumps, as seen placed on the grass. If convenient for water, the centre clump may be converted into a basin for gold and silver fish, having also a fountain. The shrubs, as indicated on the grass, should be of the most select dwarf evergreens.

A PLANT MORPHOLOGICALLY CONSIDERED.

(*Continued from page* 14.)

SUCH facts as these strongly incline us to the belief, that in plants with leaves that strike the eye, the leaf and plant are typically analogous. The leaf is a typical plant or branch, and every tree or branch is a typical leaf. I am quite aware of the differences between these two distinct members of the plant. In particular, we find in the case of the full tree that the branches extend all round the axis, whereas in the leaf the fibrous veins all lie in one plane. But then we have a phenomenon to connect these two in the branch, the branchlets of which often lie in one plane. The principal difference between the tree and leaf may probably be found to be in this—that the cellular tissue or parenchyma, which in the tree and its branches is collected into the pith and bark (which are connected by the medullary rays) is in the leaf so spread out as to fill up the interstices of the fibrous matter which forms the veins.

The general order, as thus stated, applies only to the plants which have pith and bark, and fully formed leaves intended to strike the eye. There is no such special order in plants with linear, unbranched leaves, such as Firs and Pines. The leaf in these plants has no ramified venation, and seems to correspond, not to the whole tree, but to the stem; and in doing so it is more in accordance with the whole morphology of the tree than a veined leaf could possibly be. But while the general order is varied to suit the different physiological structure and form of the tree, we discover here the very same general principles of order as we have been discovering elsewhere; for in the Firs and Pines every internode is of the same structure with every other; every branch tends to assume the outline of the whole tree, *every topmost or growing internode with its leafage is of the same form as the tree or branch.* Herein does the special morphology approach nearest to that of the plants with ramified veins, and the very cones are often types of the whole tree and of every branch.

We are not prepared to say what is the special law of order in plants of the monocotyledonous class. Some of these, such as our ordinary Lilies and Grasses, send off no branches; and the leaves of these plants have their veins parallel, or nearly parallel, to the stem, and have no ramified venation. In regard to Palms, they would require to be investigated in their native climes before their special order could be discovered. Some plants of this class, the Dictiogens of Lindly, to which belong the yams, have branches like our ordinary forest-trees; and it is a curious circumstance, and confirmatory of our theory, that the leaves of these plants have a reticulated structure. So far as fungi, lichens, algæ, and the whole acotyledonous plants are concerned, it is evident that they present a repetition of parts homotypal in structure and form, and thus illustrate one general doctrine—that throughout the vegetable kingdom the parts are similar to one another, and in nice accordance with the whole.

Such facts as the above incline us to the belief that the fibrous veins of the leaf bear a morphological analogy to the stems of the tree. We are inclined to regard the root, the stem, and the leaf as the three distinct members of the fully-developed plant; these three parts, however, being morphologically allied, so that, to adopt the phraseology of Professor Owen, as applied to another subject, they may be called HOMOTYPES. The plant thus becomes an unity with innumerable interesting diversities.

I think it proper to add, that while strongly convinced that there is truth in this doctrine, I am at the same time prepared to believe that it may have to submit to modification, which may correct, but will not destroy, the general view.

REMARKS ON THE MYRTLE.

BY MR. P. MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

FABLE informs us that the Greeks named this shrub or tree from Myrsine, an Athenian damsel, and favourite of Minerva, who was metamorphosed into a Myrtle. Pœna, however, says it was named *Myrtle* from the fragrance of the foliage and berries so nearly resembling the celebrated odour of Myrrha, or Myrrh; others deduce it from *Myron*, perfume.

This beautiful shrub or tree attracts universal attention by its irresistible charms, and has been made the emblem of Love, and dedicated to Beauty. When Venus first sprang from the sea, and appeared on the bosom of the waves, the Hours preceded her with a scarf of a thousand colours, and a garland of Myrtle.

The Myrtle has been made sacred to Veritas (Truth) as well as to Venus (Beauty).

> "Unfading branch of verdant hue,
> In modest sweetness drest,
> Shake off thy pearly tears of dew,
> And decorate my breast.
>
> "Dear emblem of the feeling mind,
> *Truth's* consecrated tree;
> Still shall thy trembling blossoms find
> A faithful friend in me."
>
> MARY ROBINSON.

Although the common Myrtle has been grown in this country for more than two hundred and fifty years, it is still a tender plant in most places of our island, and even in the latitude of London it will endure the climate only in its warmest and most sheltered spots.

Although the Myrtle has been cultivated by our fathers, grandfathers, and great-grandfathers, it is still a favourite with a vast number of their progeny.

Like many of the old cultivated plants, the common Myrtle has produced several varieties, such as the Roman, Tarentine, Italian, Portuguese, Broad-leaved, Narrow-leaved, Pointed-leaved, Variegated-leaved, and Double-flowered.

This charming evergreen fragrant bush, we are informed, inhabits all the warmer parts of the basin of the Mediterranean and Western Asia. It is regarded by the Persian peasant with superstitious reverence; and in our own country, I hesitate not to assert, "it is universally admired and esteemed." Any short notice, therefore, as many of the readers of this Magazine, and the peasantry of this country, may possess a Myrtle in their *gardens* all the year round, may not be unworthy of a place in its pages.

For some years I have been trying experiments as to where the Myrtle will best stand our winters, in rich soil and poor soil, and placing them in various points of the compass, in sheltered situations and in exposed places. Some of them are killed the first winter they are exposed; others will push shoots from the root in the following spring; but the one that has stood best as an evergreen is growing in poor soil on the north side of a Tree of Life (Arbor Vitæ), which prevents the full blaze of the sun from shining upon the Myrtle for a great part of winter; and when the frost finds it, it appears to do the plant less injury than those receive where the sun shines upon them. The *thawing in the shade* I consider to be of importance in saving the lives of these, as well as many other tender plants that have been tried in the open air.

As the common Myrtle is easily propagated, or good-sized plants may be purchased at a small cost, other persons may try the experiment; and although some plants may perish, it will not be a costly loss. It is well worth trying, as those which become wholly inured to the climate, become most lovely evergreen shrubs.

In the fourth volume of the "Cabinet" there is a very interesting article on "the Myrtle;" and without being considered a robber, I think I may safely quote here the last paragraph of it:—"At Sir Nicholas Carew's, at Bedington, there is a *Myrtle*, of the Spanish broad-leaved kind, which is above eighteen feet high, and spreads about forty-five feet wide." Mr. Bradley says, "If to this are joined those Myrtles that he has seen growing in Devonshire in the natural open ground, he cannot see any occasion for any great use of fire for those sorts of plants which are common in greenhouses;" but plants that are "kept in pots" are much more liable to suffer by the frost than if they were grown in the naked ground; and the *more woody* the plants are, the more hardy in proportion.

THE BEST SEASON FOR PLANTING ORNAMENTAL TREES AND SHRUBS.

BY MR. H. STILWELL, OF PINE-APPLE-PLACE NURSERY, LONDON.

With regard to the most suitable time for planting ornamental trees, shrubs, and roses, about which so much has been written, and to which so much importance is attached, nothing definite which will suit every place and casual circumstance can be given. General success, however, depends on "the time" of the year, the state of the weather, and the condition of the plants and trees. Something will always remain to be decided by the judgment of the gardener or planter.

As a general rule, I have always proved the month of March to be the most "unseasonable" in the whole year, for either removing or planting any kind of trees or shrubs. March is generally "a very cold month, with cutting winds from the east;" the soil, too, is in its "coldest condition," and, in proportion, is unsuited for promoting an immediate striking of small roots into it. These adverse circumstances prevailing, render this period the worst to which newly planted trees, shrubs, and roses, can be subjected to.

If the nursery stock of trees and shrubs were moved and replanted every alternate year, in order to promote the production of numerous fibrous roots, there would not be half the losses in removing and planting as there now are, even if the operations are done at an unseasonable time of the year.

Respecting the removing and planting of *evergreen* trees and shrubs, some writers on the subject affirm strongly that August is a very suitable month for those operations; I differ from such opinions. From experience, I have always found the following period to be suited for any kind of trees or shrubs whatever; viz., from the first of September to the end of February; but the most favourable part of it is, from the "middle of September to the middle of November." With many persons, the *time* of removing and planting is not the governing consideration; but orders are issued, and subordinates must of course obey, even if it is in July or August; such instances are not unusual, and the impropriety of such a course of procedure is discovered when attention is called to the dying and dead plants, and the blame is then usually thrown upon the individual operator.

Whenever the leaves of "newly planted evergreens" dry up and remain upon the plant, its early death is certain to ensue. But if the leaves even "fall off" soon after planting, and the bark keeps plump and green inside, the plant will grow. If, however, the weather is dry, the branches being sprinkled over occasionally with water in the evening, will promote an earlier pushing of shoots. I find this sprinkling overhead of all late spring planted trees and shrubs is *essential* to their succeeding, and ought to be done on every dry evening till roots push into the soil.

NEW DAHLIAS SHOWN IN 1852, AND INTENDED TO BE OFFERED TO THE PUBLIC IN THE SPRING OF 1853.

Notes carefully made from the flowers when in their best condition, and may be fully relied upon as to merit.

Abigail, blush, mottled with purple; centre well up, outline not good.

ALEXANDER POPE, cream-coloured, mottled, and edged with rosy-pink; centre well up, outline good.

AMAZON, white, with a very broad margin of carmine-lake; medium size, much in the way of Beauty of Sussex, but better form.

ANNIE NEVILLE, flesh-colour, tipped and mottled with rosy-purple; centre well up, outline good; the rows of petals too wide apart.

ANNA BOLEYN, blush-white, edged with lavender; outline good, centre well up.

BEAUTY OF THE GROVE, yellowish-buff, edged with rosy-pink; good outline and centre; pretty.

BOB, deep orange-scarlet, large; outline good, centre well up.

BRILLIANT, vivid scarlet, large; centre well up, and if grown in fresh soil, not much enriched, it will be a first-rate flower in every respect.

BRITISH QUEEN, white, edged with rosy-lilac; outline good, centre well up.

CAMBRIAN BEAUTY, dull orange, tipped with bronze-purple; centre and outline good; smallish size.

CAREW, bright-red; centre good; wide between rows of petals, but in poorer soil would come more compact.

CLAUDIA, purple, with white tip, very showy; centre up, but too open between petals.

DARLINGTON, light purple; good outline, but centre too low.

DUCHESS OF KENT, yellow, with white tip; good outline, but not equal to Mrs. Hansard.

DUCHESS OF SUTHERLAND, lower part and tip of each petal white, and midway of a rosy-red colour; very showy.

GOLDEN EAGLE, orange-yellow; good outline, centre a little too low, flower very deep.

GRAND DUKE, violet-purple, large, deep, and must be grown in poorish soil to prevent it being coarse; it will then come excellent.

HARLEQUIN, rose and purple, with white tip; pretty.

HORNCHURCH BEAUTY, rosy-lilac, large; good outline, centre a little too low.

KING OF THE FANCIES, light purple and pink, occasionally comes purple only; good centre; showy.

KATE, blush, with small purple tip; outline good, centre well up.

LILAC KING, very pretty lilac; large, and of excellent form.

LADY DALRYMPLE, blush, with purple tip; medium size.

LADY FOLKSTONE, blush; medium size.

LORD BYRON, salmon-colour; outline and centre good; medium size.

LORD NELSON, salmon-buff; outline and centre good; must not have a *rich* soil; it will then come excellent.

MISS ELLIOTT, bright primrose, edged with pink; very pretty and of good form.

MRS. WENTWORTH, white, edged with rose; good outline, well up, fine form.

MADAME KOSSUTH, white and pink; pretty, but a little too open between petals.

MAGNA CHARTA, orange-red; good outline, well up; large.

Mrs. F. Sutton, deep pink; well up, good outline.

Mrs. James, salmony-buff, with white tips; good outline, well up.

Mrs. Stein, light crimson, with deeper coloured shades; good outline, centre good, but flattish flower.

Multiflora, salmon, purple, and white; well up, but imperfect outline.

Miss Caroline, white, with a delicate lavender edge or tip; good centre; pretty.

Miss F. Moriers, deep yellow, crimson at the sides, and white tip; pretty.

Motley, white, striped with lilac and purple; form not good, but showy.

Oliver Goldsmith, orange-red; rough.

Panorama, rose, with white tips, and the centre lighter colour; well up and good outline.

Plantagenet, purple, shaded with rosy-lilac; well up, and good outline.

Prince of Orange, bright orange; centre good, flat face.

Queen Victoria, deep yellow, edged with red; well up, and good outline.

Rival Duke, orange-red; large and showy.

Sir John Franklin, salmon-buff; well up and good outline.

Unanimity, nearly equally striped with red and yellow; large, and in form much like the Duke of Wellington.

Vesuvius, salmon-red; large, but rather rough; well up, outline good.

Wonderful, pale yellow, striped with rosy-red; well up, outline good.

Zebra, light, with brown stripes; well up and good outline.

The above are what came under our notice, and notes of which were taken.

MISCELLANEOUS SECTION.

Transplanting Trees.—We had an opportunity of witnessing the exhibition of a new apparatus for the lifting and removal of trees, invented by Mr. Stewart M'Glashen, sculptor, in this city. The exhibition took place on the grounds of Mr. Craigie Halkett Craigie Inglis, of Cramond, in a park adjoining Cramond-house. The principal improvements effected by the invention are, that the root is not exposed by the removal of the mould from it, thus preventing risk to the vitality of the tree; that no trench requires to be dug round it; that the work can be accomplished with ease and expedition, and at infinitely less expense, and that trees of much greater magnitude can be removed than has hitherto been supposed.

The tree experimented upon was a slender sycamore tree, of 53 feet in height, and 5 feet 4 inches in circumference at the thickest part of the stem. The soil was very damp, from the heavy rain of the previou night.

The first process of Mr. M'Glashen is to lay down a frame of T-iron —in this case 10 feet square. He then takes cutters made of malleable iron, 1 foot broad, and 3 feet deep, or, with the head and neck, 4½ feet. These cutters are driven by a wooden mallet into the soil to the depth of 3 feet all round, and, being inserted sloping inwards, they give to the enclosed mass the form of a square-blunted wedge. A rod of iron is then laid along the top of the four rows of cutters, and extension-rods going across the frame force the heads of the cutters apart as far as possible, and, consequently, cause the points to converge at the bottom. A clasp or gland is then put around the trunk of the tree, with a mat under it to preserve the bark. Two parallel beams are then laid across the frame and fastened to it with chains. The above constitutes the frame to be raised. The means of raising the mass is a carriage (which also serves the purpose of transportation), consisting of two strong common carts, one at either end, with bolsters raised above the axletree of both, and on which bolsters rest two massive parallel beams secured to them with strong bolts. The height of the beams from the ground is about 6 feet. They, of course, enclose the tree. The process of lifting is exceedingly simple, the whole being accomplished by screw power. The screws are four in number, and so arranged as to make the lift equal. They are made fast to the beams of the frame, and are worked by men standing on planks across the beams of the carriage. The frame and enclosed mass are slowly raised, and the tree with gentle oscillation moves erectly upwards. The tree may, it is evident, be raised without the use of guy ropes, the solid mass of earth effectually balancing the trunk and branches; but they were used on this occasion as an extra precaution. After about twenty minutes' working of the screws, the tree was completely raised from the pit, the operation having been effected in an easy and gradual manner, and amidst tributes of admiration from all around. It was not the intention to remove the tree experimented upon; but the means of removal being exhibited and explained, all seemed satisfied with the feasibility of the apparatus for the purpose. A strong case was shown for the enclosure of the ball of earth, when the tree is to be conveyed to any distance. In moving, the tree still maintains its erect position. The propelling power, when horses cannot be used, is by a winch in front of the foremost cart, and block and tackle; but when the way is clear and the road good, horses will do the work safely and more expeditiously. The tree is lowered into the pit prepared for it on the same principle.

It is calculated that, in this instance, the weight lifted was 13 or 14 tons; but the inventor and patentee states that, by an enlargement of the apparatus, he could lift almost any tree.

The principal experiment being accomplished, the company were directed to another part of the policies of Cramond-house, where a holly-tree, about 15 feet high, was lifted by four large and broad spades, forming a case to enclose the root. A similar experiment by smaller implements was made on a Gooseberry-bush, while some smaller plants were expertly lifted out by two semi-cylindrical spades. In each case the plant was extracted with its native ball of earth. An oblong apparatus has also been invented by Mr. M'Glashen for the removal of hedgerows; and by a similar contrivance he lifts out the mass of earth for insertion of tile-drains, replacing it when the work is accomplished. The implements used in these operations are also patented.

CYCLAMENS.—The period when you procure the Dutch bulbs is the proper time to obtain these very pretty winter-blooming plants. Good healthy plants procured then will probably have commenced growth, and should be kept rather close for a week, when it will be advisable to examine the state of the roots, and, if well furnished, shift into pots a size larger; otherwise repair the drainage, and defer shifting until the roots indicate a want of pot room; and then a moderate shift only should be given. At this season the plants should be placed near the glass, and should receive a sufficient supply of water to keep the soil in a nice moist, healthy condition. Provided frost is excluded, the temperature in which they are grown is of little consequence, except where plants are wanted in flower, without loss of time; and as the blossoms appear before the foliage is well developed, there will be little difficulty in securing these at any period from November to April. Keeping the plants cool and rather dry will retard their blossoms until March, and placing them in a temperature of from 45° to 50° will bring them into full beauty in a very short time. The plants may be kept in a cold pit, where they will be safe from the frost, until they commence flowering, and then they should be removed to a sitting-room window, where, with care to protect them from currents of cold air, they will be quite at home, and will be beautiful objects for some two months. The best situation, however, for Cyclamens, while growing and in flower, is near the glass in a greenhouse or pit, where the temperature may average from 40° to 50°, and where air can be admitted without its passing over the plants, as is the case in most sitting-room windows.

It is a too common practice to treat Cyclamens with neglect directly the beauty of the flowers is over, and to give them little attention, and sometimes hardly a drop of water until the following autumn, when they are wanted in flower. This is the very reverse of what they require, and annually occasions the loss of many bulbs. The plants should be allowed a light, airy situation in the greenhouse or pit, and kept properly supplied with water until May, when they may be removed to a shady situation out of doors; and when the leaves decay, very little water need be given until it is desired to excite the plants into growth; the soil, however, should never be allowed to become quite dry. My own practice is to plunge the pots in coal-ashes during the summer, which, in case of long-continued droughts, are watered, so as to afford a little moisture to the soil in the pots. The plants should be moved to the greenhouse in September, and surface-dressed or potted as may be necessary.—*Gardeners' Chronicle.*

ON THE CULTURE OF THE SINGLE ANEMONE.—Is is some years since I was first induced to grow these charming flowers, from seeing the splendid masses of colour produced in a friend's garden. I commenced by obtaining a dozen heads of seed, when they began to open at the top, or lay loosely on the top of the stalk. I did not save this seed till spring. Had I done so, I should have lost a season; but my beds, which are naturally of a sandy nature, on a rocky subsoil, having been previously dug, and had some very rotten manure buried in them, six inches in depth, immediately after raking them smoothly, the seed was scattered over the surface in less than three hours after being gathered. I then beat the surface with the back of a spade, and covered, to the depth of the eighth of an inch, with rich light compost. The young plants speedily made their appearance, and gathered considerable strength before the winter came on. Being perfectly hardy, they needed no protection.

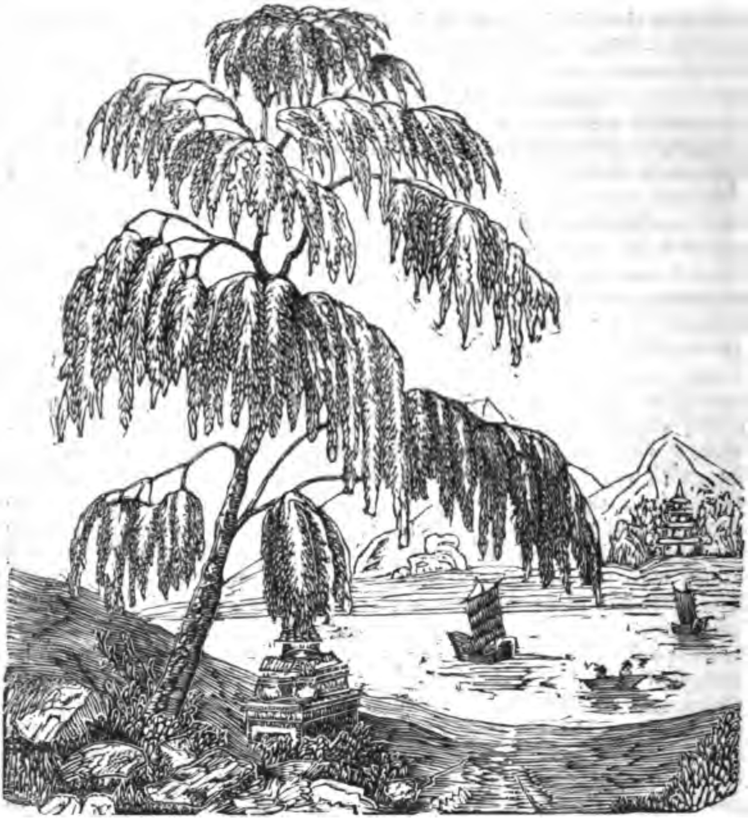
The display that these young seedling plants make in the spring is perfectly amazing, flowering from roots of the smaller size; for when taken up, I have had thousands not larger than an early Warwick pea.

My plan is, when they are in bloom, to eradicate all which are of dingy and obscure colour; and I have been most abundantly rewarded, by having as beautiful an assortment of this flower as any one can boast of. I may just observe here, that I have on several occasions had double flowers among the seedlings. These I have carefully selected, and am now growing them as named sorts.—*Midland Florist.*

HOW TO PLANT ROSES.—It may not be considered out of place here to offer a few brief remarks on the best system of planting Roses. When they are to be placed out singly, on lawns or in beds, amongst other plants, a hole should be made about eighteen inches deep, and large enough to contain a good-sized wheelbarrowful of compost; two-thirds of this should be turfy loam (if it can be procured from an old pasture it is preferable), and one-third well-decomposed animal manure. These should be thoroughly mixed together. Should the ground be dry at the time of planting, or if it is done in spring, a liberal watering should be given before the soil is all filled in around the plants, and standards should be securely staked to prevent the winds from moving them, which is very injurious. When beds are to be planted, the ground should be deeply trenched, and afterwards a good dressing of manure should be applied. A small quantity of the compost recommended above may also be added around each plant. As roses seldom thrive well in soils that have previously grown them for a number of years, it is advisable that when old beds are renewed, the soil should be removed to the depth of eighteen inches, and its place supplied with the above mixture. When a piece of ground is set apart for the exclusive cultivation of roses, the most open situation that is available should be selected. If wet, it should be drained. If it is inconvenient to use tiles, a layer of from four to six inches deep of brickbats, or any other coarse material, will answer the purpose. This done, the ground should be trenched as deeply as the nature of the soil will admit of. The beds may then be formed according to taste or circumstances, and the planting may be proceeded with as recommended above. November is the best month for transplanting, but it may be safely done from October to March. It is not advisable to prune at the time of, nor immediately after, planting. The first season the plants should all be headed back to two or three buds upon each shoot. This will ensure a vigorous growth.—*Wood and Son, Maresfield.*

Perpetual blooming Tree Carnations.—I was pleased with Mr. Burley's remarks on this valuable blooming class of flowers, which appeared in a recent Number. In July, 1851, I purchased half a dozen varieties; each plant had several side-shoots: these I shortened, and, in a gentle hotbed, struck them. When rooted, I potted them in a rich loam, and kept them in a cool frame. Early in October, I cut off their leading shoots, and struck them, which I also potted, and kept in a cool frame, with the exception of seven, not having room for them; these I then (October) planted in the open ground, as well as a couple of the first-struck plants; they had not any protection in winter, only secured by a few slender sticks, to prevent their being blown about. In April, I had these taken up and replanted, and trained to a neat wire edging round a circular bed; and from July to the present time (December 10th) they have been in profuse bloom. I had a few planted in the mixed flower-borders trained to neat tube-shaped wire frames, six inches across, two plants to each, and they have also been in beautiful bloom throughout the season. About half the plants I kept for growing in pots I have had in bloom, either outdoors or in the greenhouse, during all the time from last December to the present December, 1852, and now have some plants in bloom, and others with a profusion of buds likely to bloom throughout winter. The other half of the plants in pots I turned out in June, took away the crocks from the ball, replaced them by putting in a portion of soil equal to their bulk, and plunged the pots overhead in a border, close to a brick wall, four feet high, and trained the plants to it. They have bloomed charmingly all the season, and now having taken them into a greenhouse, I have the plants in fine bloom; and though they had rooted through the bottom hole of the pot, their removal has not injured them, but their appearance, now in-doors, has much improved them. This fine class of clove-scented perpetual-flowering Carnations appear to succeed well, either in the open air, greenhouse, sitting-room, stove, frame, or pit. They are worth the attention of all lovers of flowers. —*An Amateur.*

Flowers in Covent-garden, in January.—Lily of the Valley, Hyacinths, Narcissus, Jonquils, Epiphyllum truncatus rosea, and violacea; Bignonia venusta, Cinerarias, Tree Carnations, Violets, Acacias, scarlet and other Geraniums, Camellias, Poinsettia pulcherrima, Erica caffra, gracilis, Linnæoides, Wilmoreana, Cerenthoides, Chrysanthemums, Salvia fulgens, azurea, gesneriflora; Lobelias, Tropœolum Lobbianum, Daphne indica rubra, Azalea indica, Sericographia Ghiesbrightiana, Justicia speciosa; Roses, several species of Orchidæa; Cyclamens, Sephanotus floribundus, Mignonette, Heliotropes, Chinese Primroses, Fuchsia serrattifolia, and others; Lilies, Cape Jasmine, Epacris of sorts; Tulips; Ardisias, with clusters of red, "holly-like" berries; Passiflora kermesina, Polyanthus, Pinks, Single Anemonies, Cypripediums, Euphorbia jacquiniflora, Plumbago rosea, Cestrum aurantiacum, Orange flowers, scarlet Rhododendrons, and Passifloris racemosa. The above flowers can be had to ornament the greenhouse, sitting-room, &c., during winter.



CUPRESSUS FUNEBRIS (*Funeral Cypress, or Weeping Cypress*).

Sir George Staunton accompanied Lord Macartney in his embassy to China, and was the first English writer who made mention of this very "*noble evergreen tree.*" Subsequently, however, Mr. Fortune met with it near the celebrated tea-country of Whey-Chow, and sent plants and seeds to Messrs. Standish and Noble. He observes, "The most beautiful tree in this district is a 'Weeping Cypress,' which is generally found planted in cemeteries. It forms a noble-looking evergreen tree, about sixty feet high, having pendulous branches, like the weeping willow. It grows very symmetrical, and reminded me of some of those large and gorgeous 'chandeliers' which one sees in large and public halls in Europe." It is quite hardy, and will be a charming ornament for park scenery, for *lawns*, for the entrance to suburban residences, cemeteries, &c. It will form an admirable contrast and companion with the Deodar Cedar, and Cryptomeria japonica. It ought to be grown wherever it can be admitted. It can have the lead stopped at any desired height, and thus be regulated to suit very limited circumstances for many years.

FLORAL OPERATIONS FOR THE MONTH.

THIS month's attention is particularly required to provide plants which shall make the coming floral season's display; *immediate* efforts must be made by sowing seeds, striking cuttings, dividing plants, &c.

IN THE FLOWER-GARDEN.

Rose-trees must be planted directly. Prune the open-air kinds of the *hardy class* now, and the tenderer sorts next month. Perennial and biennial plants in the flower-bed may be divided. Plant out Hollyhocks and any of the biennial plants. Pink-beds: see that the plants remain secure. Carnations and Picotees: if mildew attack the leaves sprinkle with sulphur. Manures should be laid over the roots of Roses, removing a few inches of the earth, filling up the hollow with well-rotted cow or hot-bed dung, and sprinkle it over with soil, so that it may not dry.

About the middle of the month, if the weather be dry, plant Ranunculuses and Anemones five inches apart, an inch and a half deep from the crown to the surface; and if the soil be dry, after planting, press the surface with a flat board. Be careful that Tulips be *firmly* secured in their positions, so that they be not damaged by wind. A small protection against strong wind should be provided on the bed side most exposed. Heartsease should have a similar protection. Now is the time to make a plan of the flower-garden, parterre, &c., and to mark each bed with the kind of flowers required, and then to prepare a stock to furnish accordingly, whether from the sowing of seed or otherwise, as with Verbenas, &c. Protect the early buds of Tree Pæony, &c. Sow some of the hardy annual seeds in borders for early bloom in dry situations.

IN THE FORCING STOVE OR FRAME.

Sow seeds of the tender annuals, as Balsam, Amaranthus, Cockscomb, &c., in pots, and the half-hardy kinds, as Asters, Stocks, &c., either in pots or upon a bed of soil, &c.

Cuttings of Fuchsias, Alonsoas, Ragwort, Calceolarias, Cupheas, Salvias, Heliotropes, Geraniums, Lotus, Bouvardias, Anagallis, Verbenas, Petunias, and such like plants, for the open beds in summer should immediately be struck, or the plants will be too weak to answer the purpose. If cuttings were put off in autumn, they should now be potted off singly into small pots, any long ones amongst them should be stopped, to induce laterals and make bushy plants.

Dahlia roots should be immediately put to force for stock, and seed be sown in pots. Lobelias be potted singly, to have them vigorous by turning-out time. Boxes and pots of Mignonette for succession should be sown. Achimenes, Gesnerias, Gloxinias, &c., be introduced, to promote their immediate growth, and as soon as they have pushed, pot them, singly. Amaryllis, &c., be excited in like manner. Pot Tigridia pavonia and T.-conchiflora into smalls pots. Sow seed of the Chinese Primrose, and as soon as the plants are fit to pot off do so in a rich compost; keep them in heat for a short time, and never water them over head. Calceolarias be encouraged, to have them large; they, as well as Cinerarias, succeed best when grown in a warm, moist, airy pit-frame, kept at about 56° of temperature. Fuchsias required for exhibition should now be cut in, so as to have them a good shape, and after having pushed a little, be re-potted, thinning away all unnecessary shoots.

IN THE GREENHOUSE, &c.

Pelargoniums, to be superb specimens, should be re-potted into their blooming pots (read the several Articles on their culture in previous volumes); they must have a free circulation of air around the plants; it gives vigour to the shoots and prepares them for a higher temperature afterwards without injury, and a stronger bloom is produced. The one-year old plants headed down last autumn will have produced young shoots now, a few inches long; thin them. In order to have a succession of bloom, now stop the shoots; this will induce the production of lateral ones, which will come into bloom after the first race of plants have ceased, and continue to a late period of the season. A few more plants, stopped a month later, will supply to the end of the year. (See vol. xvi., p. 199.) The surface soil in all pots should be stirred up; it tends to health. Epacris, Correas, Coronillas, Acacias, Cinerarias, and other plants, will now be coming into bloom; water seldom as possible, but when given let there be as much as will moisten *all* the soil. Ericas will still be inactive; give but little water. If any mildew appear, dust with sulphur. Camellias, too, should occupy an airy part, and the greatest care should be taken to keep the soil in an *equally moistened* state, using water of a temperature equal to that of the house. Give weak manure-water alternate with the other. Alstrœmerias, Lilium speciosum, and others, should be re-potted.

IN THE STOVE.

Exotic seeds should now be sown.—(See Articles in former volumes). Specimen plants for exhibitions will require re-potting, pruning, &c. Ixoras should be elevated, so as to be near the glass, in order to set their bloom; they must have plenty of air at all times convenient.

BRIEF REMARKS.

A ROYAL BOTANIST.—There is one king in Europe who is a good practical botanist, and who must look back upon the hours spent in the arrangement of his fine herbarium with far more pleasure than upon those wasted in a vain and retrograde course of politics. The monarch in question is his Majesty of Saxony, who, in his scientific career at least, has gained honour and respect. Many are the stories told by his subjects of their ruler's adventures when following his favourite and harmless hobby; how, more than once, astray from his yawning courtiers, he had wandered in search of some vegetable rarity across the frontier of his legitimate dominions, and, on attempting to return, was locked up by his own guards as a spy or a smuggler, since he could produce no passport nor give any more proper account of himself than the preposterous assertion that he was their king. Fifteen years ago, he made a famous excursion to the stony and piratical little Republic of Montenegro. It was literally a voyage of botanical discovery, and the potentate sailed down the Adriatic in a steamer fitted out with all the appliances of scientific investigation. On its deck he might be seen busily engaged in laying out his plants, ably and zealously assisted by his equerries and aides-de-camp, and guided by the advice of eminent botanists, who accompanied him as members of his suite. Such a kingly progress had surely never been seen before; unless Alexander the Great may have relieved the monotony of conquering by making occasional natural history excursions with his *quondam* tutor Aristotle. The Montenegrins, on ordinary occasions very troublesome and by no means trustworthy people —folks who still keep many of the worst habits of the old Scottish Highlanders — were mystified into tranquillity by the peculiar proceedings of their royal visitor and his noble attendants. Resolved, however, to render due honour to so distinguished and unusual a guest, they furnished a guard of state to accompany him in all his peregrinations; and, whenever his botanical Majesty stooped to gather a new or rare specimen, the soldiers halted, and, with much ceremony, presented arms.—*Westminster Review.*

ON VARIEGATED LEAVES.—I am a subscriber to your very useful and clever Magazine, and being a great admirer of variegated plants, have found the December Number particularly interesting. I think, however, there is one great omission, "the tendency of variegated plants (the leaves) to become selfs;" and I do not think the allusion in page 298, by the professor at Bonn, is at all conclusive.

I have cultivated as a creeper showy flower, and ornamental plant for bordering, &c., all the year round, "the variegated *Arabis*;" it has a disposition to become partially self, but this year whole plants grown in totally different soils and situations have become plain green; viz., in a damp shady border participating in the kitchen garden manure; the other limestone rock under a south aspected wall, the top soil being peaty and light.

I have a variegated Alder which has a very curious appearance in flower. My gardener is trying to raise a variegated Cistus from a branch on a plant of the usual foliage; but he has not hitherto succeeded in striking it, which seems like weakness, as those having the usual green foliage readily strike root; the leaves are curiously variegated. I have also a variegated Veronica, Phlox, and two Balms, all very pretty of their kinds. The Phlox does not thrive here, but is very fine further north, of medium height, having a white flower; it is a beautiful plant.—(*A devoted Floriculturist in the County of Durham.*)

THE CHINESE (OR INDIAN) AZALEAS.—By the following method of treatment I have for many years found these very showy blooming plants to succeed most admirably.

When the plants have nearly finished blooming, and before the shoots push afresh, I repot them, on a compost of old turfy loam, well broken, good peat, rotten leaf mould, and silver sand, in equal parts, well mixed. I have a liberal drainage, and a sprinkling of small bits of stone, brick, or charcoal intermixed with the whole. In this they flourish vigorously. After potting, I place them in a medium-heated forcing pot, heated by hot-water pipe, and troughs over the pipes in which water is kept, so that the plants have a nice *moist warmth*—this is essential to their forming good new wood. When it is perceived the ends of the shoots begin to harden, turning rather brown, the flower buds will then be first forming, the end bud becoming plump and hard. This being obtained, I remove the plants outdoors (usually this occurs from the middle of June to the middle of July), and place in a somewhat shaded place from mid-day sun; here they stay till the last week of September, when they are removed to a cool greenhouse pit, and taken in successively to the forcing-house; the earliest prepared ones for blooming are taken the first.

A LONDON NURSERY FOREMAN.

BANISHING MICE.—If in places infested with mice their holes be plentifully dusted with snuff, they will be off like shot.

TO PROTECT TREES, SHRUBS, &c.—Collect a sufficiency of fresh cow-dung from the pasture, and add a sufficient quantity of soot, until it resembles mortar in consistency. Let it remain unused for a week, but do not add water to it. Then apply it with the hand, or a mason's trowel, to the stems of the trees. It is a repellant to hares, rabbits, horses, &c., and will last two years.

RUSSIAN SUPERB VIOLET.—This very fragrant violet is quite hardy, and does not require the protection of glass, or in any other way whatever; in fact, it would be injured thereby. It blooms profusely from September to March in the most open situations, which, indeed, are selected as preferable for it, and the scent of it is superior to that of any other violet I am acquainted with.—R. SHACKELL.

PAINT-DRYERS.—Coal-tar will dry by using the dryers usually applied to paint, viz., acetate of lead, sixpence per lb., and turpentine; about half a pound of lead, or upwards, to two gallons. Use as much lime in powder with the tar as possible, well boiled. Stockholm tar, if laid on after boiling to a certain consistency (namely, when some of it, dropped from a piece of tow, appears clotty and stringy), will dry in two hours; but if this *tide* be not "taken at the full," it will never dry.—(W. P. H. *Gardeners' Chronicle.*)

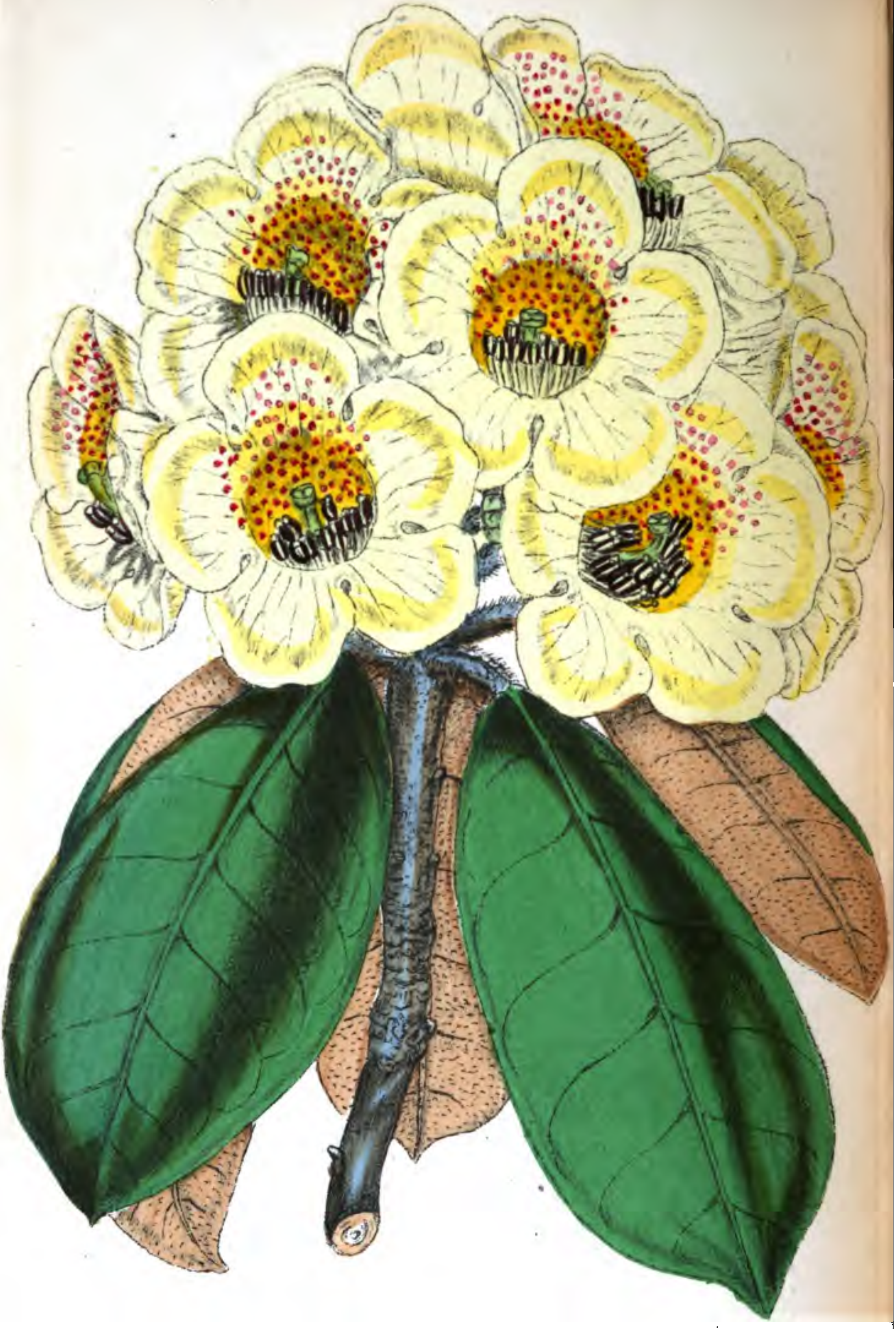
DOUBLE DAISIES.—I have grown our old kinds of double-flowered daisies for many years, but have never noticed any of them produce "seedlings." If, however, they have done so, I have not seen any flower different from the original ones. Now, we have lately had beautiful double varieties from the Continent; how am I to proceed to succeed in a similar manner? I shall be glad of early information by some reader hereof.—G. G., Herts.

The "double daisies" belong to the same natural order as the "dahlia," and produce numerous seeds. Have some of your best double varieties grown at a distance from any single-flowered ones; let the floral heads be taken as soon as they have bloomed, and are, as you judge, become duly withered, and the seeds somewhat matured; you will be able to obtain ripe seed from the "early spring blooms," by July. Sow it immediately, have it shaded from the sun, and when the plants are strong enough, pot them singly, or plant them into the open ground; you will raise double flowers too.

PLANTING RANUNCULUSES.—The middle of February is universally agreed to be the best time for planting in this country. I have succeeded in blooming them much finer, every year, than any I ever saw elsewhere, and the following method of planting, &c., is what I have practised.

I have grown my collection in the same situation during twelve years. The bed was first made two feet deep, and the substratum is shaley rock. Early in September I have the top foot of soil thrown aside, and the bottom one wheeled entirely away, after which the soil of the top, previously thrown out, is turned in to form the bottom portion; over it I spread about five inches thick of well rotted dung, and have it well dug in. This being completed, I have the top foot of the bed filled up with "one-year old turfy-loam," well broken, about four inches of the surface soil sifted finer, to plant the tubers in. In planting I have them five inches apart in drills; after placing them firmly I carefully cover them, and when the soil is pressed gently with a board over the whole, the crown of each tuber is covered "one inch and a half." If frost occur, I cover the bed with a thick canvass (or a mat will do) during night. When the tops begin to push through the soil, I carefully assist them pushing without injuring the leaves. When fully up, I have the surface of the bed stirred over, and this is often repeated afterwards. When the tops are pushed above the soil, I am careful to have the soil pressed closely and firmly around the stalks to keep them steady and from being injured by being too dry. When the season is very dry, I water between the rows on an evening, and use soft pond water. At each watering I give as much as will sink deep, so that such an application supplies moisture for a week or ten days, as the season may be. I shade the bed every mid-day the sun is powerful, for two or three hours. When the bloom is over, and as the leaves of any plant turn yellow, I immediately take such up, not waiting for a general take up, as is often done, to the injury of the early bloomers.—AN ARDENT ADMIRER AND CULTIVATOR. Middlesex.

DESTROYING SLUGS.—Strew over a bed of seedling, and other plants, or around a single plant, a coat of barley awns (or what is by some termed chaff). I have often tried this with perfect success. The slugs get entangled, as it cleaves to them, and they soon perish.—SENEX.



Rhododendron lanatum

FLORICULTURAL CABINET

MARCH, 1853.

ILLUSTRATIONS.

> " When Spring begins the dewy scene,
> How sweet to walk the velvet green,
> And hear the zephyr's languid sighs,
> As o'er the scented mead he flies."—MOORE.

RHODODENDRON LANATUM. THE WOOLLY STEMMED ROSE-TREE.

> " O'er pine-clad hills and dusky plains,
> In silent state " Rhodonia " reigns,
> And spreads, in beauty's softest blooms,
> Her purple glories through the glooms."—SHAW.

THE Greeks named this noble flowering plant "Rhododendron," from *rodon*, a rose, and *dendron*, a tree. It was also called in that language "Rhododaphne," the rose-laurel. Pliny observes, that "this plant was not so happy as to have a name given it by the Latins;" and it is remarkable that it retains to this day the original name throughout Europe. The oldest record of the original birth place of the first known Rhododendron is said to have been in the southern subalpine tracts of "Caucasus," where it still abounds in wet places, particularly in Beech and Alder woods; but its growing naturally is not now confined to the neighbourhood of the Black Sea, as it has extended itself to many places of the Levant, Gibraltar, Siberia, through the deserts of Mogul Tartary, to China, Thibet, Hindoostan, and North America. In some of those countries it grows most extensively in the *Pine* forests, and in such profusion as to make whole tracts appear a "sheet of purple" in the blooming season. The account which Dr. Hooker gives of this noble tribe of plants growing on the Himalayan Mountains is highly interesting, especially of those he discovered at Darjeerling, the Sikkim portion of these mountains, which is about 380 miles from Calcutta, and its elevation above the sea is 7,200 feet, the mean temperature of the year being about 55° Fahrenheit.

"The mountain Sinchul, upon a spur of which looking north Darjeeling stands, attains an elevation of 9,000 feet, and to the west of it, next Nepaul, rises another conspicuous mountain, Tonglo, reaching a height of 10,000 feet. Due north of Darjeeling, at a distance of only sixty miles, the horizon is bounded by the great snowy range, having for its principal feature the peak of Kinchin-junga, which has lately been ascertained to be 28,172 feet in elevation, the loftiest mountain yet known in the world." Dr. Hooker thus describes his first impressions of this scene:—" Much as I had heard and read of the magnificence and beauty of Himalayan scenery, my highest expectations have been surpassed! I arrived at Darjeeling on a rainy misty day, which did not allow me to see ten yards in any direction, much less to descry the snowy range, distant sixty miles in a straight line. Early next morning I caught my first view, and I literally held my breath in awe and admiration. Six or seven successive ranges of forest-clad mountains, as high as that whereon I stood (8,000 feet), intervened between me and a dazzling white pile of snow-clad mountains, among which the giant peak of Kinchin-junga rose 20,000 feet above the lofty point from which I gazed! The heaven-ward outline was projected against a pale blue sky, while little detached patches of mist clung here and there to the highest peaks, and were tinged golden-yellow or rosy-red by the rising sun, which touched those elevated points long before it reached the lower position which I occupied.

" Such is the aspect of the Himalayan range at early morning. As the sun's rays dart into the many valleys which lie between the snowy mountains and Darjeeling, the stagnant air contained in the low recesses becomes quickly heated; heavy masses of vapour, dense, white, and keenly defined, arise from the hollows, meet over the crests of the hills, cling to the forests on their summits, enlarge, unite and ascend rapidly to the rarefied regions above; a phenomenon so suddenly developed, that the consequent withdrawal from the spectator's gaze of the stupendous scenery beyond looks like the work of magic. Such is the region of the Indian Rhododendrons.

"The maximum of Rhododendrons appears to be in Asia, and their head-quarters are on the lofty ranges of the eastern Himalaya, where the mild and moist atmosphere is eminently suited to their habit."

The first Rhododendron introduced into England, that we have any account of, was R. hirsutum, obtained from Switzerland in the year 1656. This neat dwarf, evergreen, bushy shrub is now well known and admired. A second kind was introduced eighty years afterwards (in 1736) from North America, R. maximum, by Peter Collinson, Esq.; in 1752, R. ferrugineum, from Switzerland; in 1763, R. ponticum, R. obtusum, and R. myrtifolium, from Gibraltar; in 1780, R. dauricum, from Siberia; in 1786, R. chamæcistus, from Austria; and in 1800, the noble blooming R. Catawbiensis, from North America. A few others followed in successive years, till in 1818 the R. arboreum album, having white blossoms; and in 1820 the R. arboreum, having rich scarlet ones, were received from Nepaul. The introduction of this new section of tree-like growing Rhododendrons forms quite a new era in connection with their more general cultivation in the gardens and grounds connected with the palaces, mansions, and villas in our own country. The Messrs. Waterer, of Bagshot, Knap-hill, along with other nurserymen in that locality, being favoured with a soil so admirably suited to the growth of Rhododendrons, for many years have paid particular attention not only to grow them well, but to obtain improved, superb varieties, in which they have been very successful. Visitors to the establishments of those named will have seen trees of them from nine to fifteen feet high, with heads in proportion. We are informed that there are in one of those establishments upwards of fifty acres of Rhododendrons. The Chiswick and Regent's-park Horticultural Exhibitions have, for a few years past, had a number of these superb plants from the aforesaid nurseries; but magnificent as those collections were, they only exhibit a miniature picture of what their nurseries display.

We have adverted to the eminent success of Dr. Hooker in the discovery of upwards of thirty elegant kinds, and of their introduction into this country, several of which have bloomed during the last year, and they have not only equalled in beauty, but excelled the descriptions which Dr. Hooker had previously given of them. In our number for November, 1849, we inserted a plate of one, viz., the very noble R. Dalhousiæ; large as was the specimen flower, it exceeds that size under cultivation in our own country.

The R. lanatum, which we now figure, is another beautiful flowering kind, which was introduced by Dr. Hooker. It forms a medium-sized, branching shrub. The young wood is covered with a white cottony appearance. Its fine heads of handsome flowers, in contrast with its neat, thick leaves, produce a charming appearance. Dr. Hooker highly merits the lasting thanks of all admirers of this noble family of plants for his great exertions, and so successfully crowned. Many of the kinds may now be procured at the general nurseries; all are easy of cultivation, and deserving a place in every garden establishment.

NOTES ON NEW OR RARE PLANTS.

Æschynanthus splendidus.—We again notice this most beautiful showy flowering plant, which we figured last summer, and is now figured in Paxton's Flower-garden. But in neither case is the brilliancy of its fine heads of flowers equalled. It is a hybrid, between Æ. speciosus and Æ. grandiflorus, of dwarfish habit, and a most profuse bloomer, which will also succeed well even in the greenhouse. Wherever it can be grown, it ought to be. Messrs. Lucombe and Pence, of Exeter, raised this fine hybrid plant.

Allosurus cordatus. *Heart leaved.* (Or, Pteris cordatæ).—This very elegant *fern.* is a native of Mexico and New Grenada. A pretty plant of it is growing in a cool greenhouse in the Royal Gardens of Kew. The leaf stalk is about half a yard long, erect, half of its length bearing its pretty heart-shaped pinnate leaves. Each *pinnule* is three parts of an inch long, and half an inch broad. A collection of indoors as well as outdoors ferns ought to be grown in every suitable establishment. They are of the easiest culture, and very elegant in form. The present species is figured in the "Botanical Magazine," and Sir W. J. Hooker purposes giving a figure of one or more in successive Numbers of that excellent publication.

CATTLEYA ELEGANS.—Messrs. Backhouse, nurserymen, of York, obtained this very handsome species of *stove-orchid* from St. Catherine's, Brazil. Each flower is about five inches across, petals and sepals of a deep rosy-pink. The tubular portion of the Labellum (one inch long) is *white*, slightly tinged with yellow and pink; and the large broad lip is of a deep rich purple-crimson. It merits a place in every collection.—*Botanical Magazine,* 4700.

CŒLOGYNE CRISTATA.—A handsome Orchid epiphyte, from the north of India. Each flower is about four inches across; sepals and petals white; labellum white, with delicate yellow fringes. It is in the collection at Chatsworth, where it has bloomed; its pendant racemes, each having from four to six blossoms, were much admired.

CINCHONA CALISAYA. *The Calisaya bark-plant.*—Dr. Weddell, an English botanist, says, "From this species is obtained the most precious of the Jesuit's barks used in *medicine* (Peruvian bark), employed from time immemorial in trade, under the name of Calasaya-bark, but whose origin was wholly unknown till now." "I have already observed, that this tree has hitherto been only found *in Peru,* in the southern part of the province of Carabaya."

Its native station was found, by Dr. Weddell, to be on the slopes and precipices of mountains; and there, in the hottest valleys of Bolivia and Southern Peru, in forests.

It is a fragrant hothouse shrub, one of which has bloomed in the Horticultural Society's Garden at Chiswick. Each leaf is ovate-lanceolate, five inches long, and two broad at the widest part. The flowers are produced at the ends of the lateral shoots, in panicles, of a *pale-pink* colour before opening; then they are almost white. Each blossom is about a quarter of an inch across. Each panicle is somewhat like a small one of the Persian Lilac of our shrubberies.

GAULTHERIA FERRUGINEA (Synoneme, Andromeda hirsuta).—Mr. Gardner discovered this on the Organ Mountains, in Brazil, and sent seeds of it to Mr. Cunninghame, of the Comely Bank Nursery, Edinburgh, where the plant has bloomed. It is a small branching shrub, the leaves being ovate-oblong, an inch and a half long. The flowers are produced in terminal racemes, all the blossoms pointing downwards, each raceme bearing from eight to twelve flowers of a pretty rosy-pink colour. In form and size, about half as large as those of the well-known Irish Heath, *Menziezi polifolia,* purpurea. It is a very handsome plant, blooming very freely during summer. (Figured in *Bot. Magazine,* 4697.)

HIBISCUS SYRIACUS; VARIETY, CHINENSIS.—This very pretty Althæa frutex is a native of China, and requires to be grown with us in the stove. John Reeves, Esq., presented seeds of it to the Horticultural Society, and a plant of it has bloomed in the garden of the Society. The Editor of the Society's Journal states, "I think there can be no doubt that this, although certainly Chinese, is a mere variety, and not a well-marked one, of Hybiscus syriacus. It has large violet flowers, with a crimson eye, and its leaves larger, thinner, and more smooth than in the shrub out of doors,* having been grown in a stove." Mr. Fortune found it growing to a shrub, eight to twelve feet high, with "light-blue" flowers, in the hedges and on the hill sides on Poo-too-san, and other Chinese islands. "When growing in a *stove*, with the same kind of treatment as is required by the well-known Hibiscus rosa-sinensis, in a mixture of sandy loam, peat, and leaf mould, it forms a very handsome shrub, flowering in July and August." (Figured in *Paxton's Flower Garden*, plate 105.)

MORMODES SPECIOSUM.—A handsome stove orchid-epiphyte, a native of New Grenada. The flowers are three inches in diameter, of a rich golden-yellow, speckled all over with cinnamon-red, and the points of the lip are of a deep purple colour. It has recently flowered in Mr. Linden's establishment at Luxembourg.

LEPTOSIPHON LUTEUM. (Synonyme, Gilia lutea). — A hardy annual, which Messrs. Veitch have obtained from California. It is of a similar habit to the other well-known annual, Leptosiphons, having bright yellow flowers, which in one variety are of pale lemon, whilst in another they are as dark as an orange. It requires similar treatment to the other kinds mentioned. Each flower is about half an inch across.

NEPTUNIA PLENA. *The double yellow Water Sensitive.* (Synonyme, Mimosa plena).—It is a native of the East Indies, and of the West Indies also. Mr. Purdie introduced it to the Aquoria to the Royal Gardens of Kew, and to Syon Gardens too; but it has disappeared from both. It is a floating plant, with prostrate stems, and leaves very similar to the well-known "Humble-plant;" they are, too, as equally *irritable*, and droop as those do. The flowers are minute, collected into a head nearly two inches long, of a bright yellow colour, with very distinct deep brown anthers. It flowered in the summer in the Aquaria at Kew. (Figured in *Bot. Magazine*, 4695.)

NOTHOLŒNA SINUATA. (Synonyme, Gymnogrammia sinuato).—A beautiful stove Fern, from Mexico and New Grenada, now in the Kew collection. The frond is nearly a foot long, and the leaves (pinnæ) in *pairs*, or in some cases *alternate*, along the sides of the midrib; and each leaf about an inch long, somewhat cordate, green on the upper side, tinged with rusty brown, and the under side whiter and silky. It is a very neat plant. (Figured in *Bot. Magazine*, 4699.)

SPHŒRALCEA NUTANS.—A greenhouse, strong-growing, shrubby plant, having the habit of an *Abutilon*. The flowers, like those of the Abutilon, are drooping. Each blossom is two inches long, and as much across the mouth, of a deep purple colour. Very showy, and well worth possessing. (Figured in *V. Houtte's Flora.*)

RHODODENDRON THOMSONII.—This is another splendid introduction of Dr. Hooker's, named in compliment to Dr. Thomas Thomson, who accompanied Dr. Hooker to the Himalayan Mountains, &c. The bush grows from eight to fifteen feet high, flowers in fine heads, bell shaped, of a brilliant blood-red colour. It merits a place wherever it can be grown.

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* Our Althæa frutex.—EDITOR.

Gesneria Leopoldi.—It belongs to the section of G. tuberosa. The leaves are very pretty, large, oval, green above, and a rich rosy-purple beneath. The flower stem rises about a foot high, terminating in cymose panicle of twenty or more beautiful blossoms. The tube is about an inch and a half long, of a rich orange-scarlet. The inside of the mouth has three rich dark spots, below which the inside of the tube is white. The flowers very much resemble some of the Pentstemons. They are very handsome, and the plant merits a place in every collection.

REMARKS ON THE HYDRANGEA HORTENSIS.

BY MR. P. MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

About the year 1788, the Hydrangea Hortensis, or Chinese Guelder Rose, was introduced into this country, and still finds a place in almost every collection of greenhouse plants, and when "well grown," is looked upon with delight by most lovers of flowers; and although generally grown in the greenhouse and conservatory, it also finds a place in the window and garden of many a cottager.

Some noble specimens are occasionally met with in the gardens of this country, some of them being five feet in height, and nearly thirty feet in circumference, producing almost every year several hundreds of "large heads" of flowers, which create a most beautiful effect, some being of a fine blue, others rose, and others white.

We are told, that—

"In Eastern lands they talk in flowers,
And they tell in a garland their loves and cares;
Each blossom that blooms in their garden bowers,
On its leaves a mystic language bears.

"The rose is a sign of joy and love—
Young blushing love in its early dawn;
And the mildness that suits the gentle dove
From the myrtle's snowy flower is drawn.

"Innocence shines in the lily's bell,
Pure as the heart in its native heaven;
Fame's bright star and glory's swell
By the glossy leaf of the bay are given.

"The silent, soft, and humble heart,
In the violet's hidden sweetness breathes;
And the tender soul that cannot part,
A twine of evergreen fondly wreathes.

"The cypress that daily shades the grave,
Is sorrow that mourns her bitter lot;
And faith that a thousand ills can brave,
Speaks in the blue leaves—'Forget-me-not.'

"Then gather a wreath from the garden bowers,
And tell the wish of thy heart in flowers."

Percival.

A few years ago, a young gardener gave a small plant of the Hydrangea Hortensis to a young woman in humble life, and the plant grew well under her care; she watered it well, "for the plant loves water," and she gave it as much light as the cottage window could take in, and the plant thus frequently turned half-way round, to give every part of it an *equal share* of the light of the sun. The edge of the flower-pot was ornamented with smooth white pebbles, gathered from the shallow parts of the burn, and when the time of flowering came, her plant produced *blue* flowers.

We are told that great pains have been taken by cultivators to discover under what conditions of the soil the blue colour may be insured. The *yellow* loam of Hampstead-heath will produce it, as do also the peat-bogs near Edinburgh, and the soil in the neighbourhoods of Berlin and St. Petersburg. Water impregnated with alum, steel filings, carbonate of soda, or common salt, have been known to give the *blue* to Hydrangea flowers, but on no one of these can any certain dependence be placed. Inglis says, that this tinge is very general in the flowers of this plant in the Isle of Jersey. The Hydrangea is there seen growing as a shrub at almost every cottage door, or in one of those gardens which are always planted by the houses of that island. It is often twelve feet in circumference, and is tall, and branching enough to form a shade under which one might find shelter from the sun of August. "These beautiful shrubs," says Inglis, "here (almost as trees) form the avenues in the neighbourhood, and at the season in which they are covered with their large *blue* flowers, the effect is indeed most captivating. I have nowhere seen the Hydrangea so luxuriant in growth as in the Channel Islands, and the flowers are most *commonly blue*, not *pink*, as we are accustomed to see them in England."

A cultivator tells us his method of cultivating the Hydrangea to produce blue flowers, and he has done it with success for twenty years, is "to reduce the roots of the plants considerably about the beginning of March, and to take an ounce of the oil of vitriol, and with a quill or strong feather touch the roots of the plants all over. The remaining oil of vitriol is mixed up with the soil the plants are to grow in. When they are potted, place them in shade, or some sheltered situation, for three or four weeks, until they have made new roots, then they should have more light and heat, and especial care should be taken not to let them droop for want of water.

The young man who gave the Hydrangea to his friend, took great delight in studying the works of CREATION, and he hailed that season with delight when the mountains raised their green tops to heaven, and the breath of spring renewed the faded glories of the vegetable world, and when working amidst expanding buds and blossoms, and his heart delighted with the music of the woods, he would "inly bless the God who had such blessings planned." He also partook of the happiness that flows from making others happy. He knew that he could not make the shadow go back upon the dial-plate, or the sun to stand on his way. He had also learned that the waning hours of life, like the sibyl's page, rise in value as they lessen, and when he would look upon the beautiful "blue flowers" of the Hydrangea, and again raise his eyes to the blue heaven, he would say with the poet,

"Blue, blue, as if that sky let fall
A flower from its cerulean wall.
I would that thus, when I shall see
The hour of death draw nigh to me,
Hope blossoming within my heart,
May look to heaven as I depart."

Many may have seen among the trees of the wood one tree whose branches were spreading wide, and whose leading shoot was keeping pace with those around it, and birds nestled in the cleff of the branches, and insects gathered food from its leaves, and the passer by might recline under its shadow; but when spring returned, its roots were dead, no buds swelled, and the dew and the rain fell upon them in vain, instead of the green covering of leaves upon the young branches, there was nakedness. The bark that, "once smooth and shining," is now wrinkled and nothing; and when the winds and rains of autumn came, the fungi were working destruction upon the dead vegetable matter. These scavengers of nature, we are told, are ever ready in reducing corrupted and corrupting matter; they ride on the wings of the wind, they fall to the ground in the drops of every shower; they roll in the waters of every river and rill; they circulate in the fluids of every animal, and dwell in those of every ordinary plant; and they are probably dispensed through all mould upon the earth, and lodged in the pores of many stones. Hence Linnæus called them "Nomades, or wanderers," and no epithet can be better applied, as we know of no place from which they can be excluded.

Disease came suddenly upon the young gardener, and the pulses of life soon began to flow faintly, and he had soon to exclaim,—

"Withering, withering—all are withering,
All of Hope's flowers that youth hath nursed;
Flowers of love too early blossoming,
Buds of ambition too frail to burst!"

But He who refreshes the fields with His showers, and sweetens the breeze with roses, was his comfort in death. The animating smile of friendship also shined upon him, and sometimes dispelled the darkening cloud of sorrow; but sweeter far was his comfort when the rays of mercy broke through the shadows of the tomb.

"The chamber where the good man meets his fate
Is privileged beyond the common walk
Of virtuous life; quite in the verge of heaven,
You see the man, you see his hold of heaven.
Heaven waits not the last moment; owns her friends
On this side death; and paints them out to men."

After his death, the young woman watched over her Hydrangea with fond regard. The form in which it was trained by her departed friend was kept as nearly as possible; the flower-pot was not changed, although it required changing, for the plant grew too large for the pot. The roots, having no room to expand, became injured, and the plant got stunted in its growth. Many a plant has been killed with kindness, but this one suffered from "her regard to him who gave it to her." The leaves lost their dark green colour, and when they faded and fell off, those that succeeded them were thin, small, and wore a sickly aspect. The wood was weakly, and the heads of flowers that once grew large and luxuriant, were now few, and greatly diminished in size; but "still they were blue."

Jeremy Taylor tells us, that man comes into the world like "morning mushrooms," soon thrusting up their heads into the air, and conversing with their kindred of the same production, and as soon turn into dust and forgetfulness.

Years have rolled past since the young woman died, and her grave is almost to the world unknown. Some may ask the question,—

> "Who sleeps below? who sleeps below?
> It is a question idle all.
> Ask of the breezes as they blow;
> Say, do they heed or hear thy call?
> They murmur in the trees around,
> And mock thy voice, an empty sound."

But the Hydrangea still lives, and has received kind treatment from her sisters, who bestow great attention upon the plant "for the sake of the departed." It is the "ornament" of their cottage in summer and autumn, with its large and luxuriant foliage and blossom, which rewards them for their care and trouble in guarding it from danger in winter and spring.

We are informed that "God giveth not as the world giveth." There is a peace which cometh from Him, and brings healing to the heart. His religion would not have us forget, but cherish our affections for the dead, for it makes known to us that these affections shall be immortal. It gradually takes away the bitterness of our recollections, and changes them into glorious hopes, for it teaches us to regard the friend, who is with us no longer, not as one whom we have lost on earth, but as one whom we shall meet as an angel in heaven.

REMINISCENCES OF GARDENS.

BY RISCEMARA.

Whilst the descending snow is concealing the winter flowers, which until lately have been blooming as if the cold weather had departed, and there is no enjoyment in the garden, it is pleasant to recall to recollection the floral beauties of a past year.

At an early period of the spring, before leaves were on the trees, I saw in a gentleman's garden at Wisbeach, a fine specimen of the white-flowered Ribes; its delicate blossoms seemed to cover the whole shrub, and had a conspicuous effect, and one by no means in unison with the season. Having before only seen small specimens of this shrub, I had not sufficiently appreciated its beauty. In the gardens of Hampton Court Palace, I saw a few days after a fine Magnolia conspicua, trained against the wall, "full of white flowers," whose fragrance penetrated the air to some distance. In the conservatory is a Myrtle, once the property of King William the Third. In a round bed, a tree puzzled us; its blossoms were a pale pink, somewhat resembling those of the Medlar; no other fruit tree was in bloom, and we sought in vain for its name. I saw with great pleasure, in the Palm-house at Kew, the nodding Renealmia, in full flower. This curious plant had been familiar to me from childhood, from the coloured engraving of it given in *Thornton's Botany*, but I had never before seen the reality, and greatly admired this specimen. The Mango tree was blooming; but I must not linger at Kew, but traverse, in thought, the wide space between it and Felinstow, in Suffolk, where the garden, in the Italian style, belonging to the Marine Villa of Lady Harland, interested us from its novelty. There are several terraces, the ground of which was covered by large wall-flowers of great variety of tints, viz., pale primrose, lilac, mottled, &c. Other plants grew between the wall-flowers, and to stand just in front of the sea-wall and look up to these terraces, had quite an animating effect. In a sheltered part of the grounds we were surprised to see a fine specimen of Piptanthus Nepalensis, having thus early its yellow Laburnum-like flowers fully expanded.

In the summer we again visited this garden. Its beauties then consisted in many rich groups of different coloured "Sweet Peas and Roses," all in bloom, rising, as it were, out of a ground covered with white candy-tuft. Again to look up the terraces presented a gay and novel appearance. The soil here abounding in crag, is especially suited to horticulture. Our summer rambles extended to Lowestoft, in which vicinity the hot-houses, grounds, and hall of Somerleyton attracted our attention. To describe the latter will not comport with the FLORICULTURAL CABINET, but I may mention the magnificent, ancient "Avenue," of itself well worthy of inspection; and there is also a smaller one. The conservatory contained striking specimens of Pelargoniums, grown to an immense size, and the blossoms open, as it were, all at once. I believe the plants were a yard in diameter, and yet the pots they were in were not so large as I should have imagined. The Ericas, Epacris, &c., were grown in very large pots; the effect of these plants was exquisite. We were told they had grown a Calceolaria a yard and a half in diameter. A Crassula coccinea, in full splendour, appeared to me near that size. In the stove, were many rare plants. The Allamanda Schottii was in full luxuriance, its large, rich yellow blossoms having a glowing effect. The pink Dipladenia crassinoda was very elegant. The Hoya imperialis, with its purple flowers then shading into white, was new to me; as also the delicate Hoya bella.

At Aspley, in Bedfordshire, in the autumn, amongst many beauties I saw, under the management of a lady, such superb plants of Gesneria zebrina; they were, I believe, more than two feet high, in full flower. The leaves were large and presented almost every shade of brown and green-velvet. So much variety of tints prevailed, that the splendour of the leaves made me almost overlook the flowers, fine as they were. The Justicia carnea was beautifully in bloom, and a "great acquisition" it is to the greenhouse.

From thence we visited, at Olney, the summer-house of Cowper, the poet. Close to it was a large Hepatica, with variegated leaves. The golden hue contrasted with the green, resembled at a distance a rich cluster of flowers. No blooming beauties adorned the Wilderness at Weston, and I looked with painful interest from the poet's bed-room there into his once favourite, spacious garden.

Attracted by the scenery of Bolton Abbey, Yorkshire, we stayed at the Bridge Hotel, where, close to the garden-side of the house, the Meconopsis Cambrica (Welsh Poppy) was growing wild, having seeded itself all around, its yellow flowers cheering the fading tints of autumn.

CULTIVATION OF ACHIMENES.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

THESE very pretty blooming plants are, no doubt, grown by most of your readers who are in possession of a greenhouse and frame. To such persons, the following remarks on the cultivation of the Achimenes will, I think, be found useful.

SOIL.—They thrive best when grown in the following compost:—one-half of good turfy peat, broken in lumps, and the other half to consist of equal parts of turfy loam, leaf mould, and well-rotted cow-dung, to which add a small quantity of sand and broken bits of charcoal; the whole to be well mixed together.

In potting (if pots are used), let them be well drained, and over the broken pot let there be upon it the roughest part of the soil, and fill up with the finer.

In growing for extra specimens, pans should be used, being a foot or more across; and as the roots do not strike deep into the soil, the pans need only be six inches deep. Grown thus in a mass, a profusion of bloom is produced, which produces a fine appearance.

Previous to the tubers pushing, they should be carefully turned out of the pots or pans they were grown in last year, and be placed in small pans in some fine mould, but *slightly* covered, and having them put into a hotbed frame to start their growth, where the temperature is from 65 to 75 degrees. Let them be kept tolerably moist, and when shoots have pushed, they may be removed from the hotbed, and placed in their flowering-pots or pans. In doing this, the tubers must be placed at equal distances over the surface of the pot or pan; for the pan I have described, ten or twelve tubers are required. After potting, those that have the convenience of a stove, or close warm pot frame, should place the pans in it, and keep them near to the glass. When they have grown to about five inches high, the top should be pinched off; this will cause them to break laterals freely, and the plants will become handsome and dwarf. Some varieties that are strong growers will require stopping twice. As they break out strong, they should be sticked out and tied regularly all round the pan; and when in flower, a fine effect will be the result. When in bloom, they like a *shady* part of the house; in fact, they prefer, through the summer, a partially-shaded house. As they advance in growth, let them occupy a pleasant place in the greenhouse, admit air on fine days, and in the heat of summer give a little at nights. I should have mentioned, that in potting them, let the tubers be placed about one inch below the surface, and let them be watered with a fine-rose pot, to settle the soil around them. When they have done flowering, they should be placed in some convenient corner of the house or shed, in the same pans or pots they have bloomed in; but do not expose them to a temperature under 40 degrees, or the tubers will be injured. Do not turn the tubers out of the pans or pots after blooming, as they sometimes rot; but in spring, when wanted, turn them out and pot them, as before described. The time for potting in spring may be various, as successions may be kept up; for instance, one batch may be started at the middle of February, another batch the middle of March; and to those who have a stove, the middle of April may be used for a late batch. For late breaking, the Achimenes pedunculata Hillii should be used, as it is best adapted for late flowering. Few other remarks are necessary, as the above embraces the treatment required the season round; and if it be duly attended to, the blooming season will amply compensate for the trouble —I should have said pleasure—there has been taken with them.

I now give the names of a few good varieties, to help those that have not got a collection, to make one, if they wish to grow these beautiful flowers:—*Amœna, Baumania Hirsuta, Bodmerii, Bœckmanii Hirsuta Coerulea, Carymbosa, Coccinea Grandiflora, Fimbriata or Gloxiniflora, Jaureguia, Hillii longiflora Alba, Jayii, Margarettæ, Picta, Floribunda elegans, Tugwelliana, Venasta, Longiflora major, Multiflora, Purpurea magnifica.*

It sometimes occurs that the plants are affected by mildew; a little sulphur vivum dusted over and under the leaves will soon destroy it. If attacked by red spider, place the plants in a small frame, and fumigate carefully with sulphur; after which, give them a good syringing at the under side of the leaves.

THE CALCEOLARIA.

BY A YORKSHIREMAN.

It has often been to me a matter of great surprise that the large flowering, or, as they are generally called, *herbaceous* Calceolarias, are not more cultivated. You may visit, in this neighbourhood, a dozen gentlemen's gardens, and not see more than a dozen plants of this beautiful section of Calceolarias, and those few but miserable, half-starved, half-choked specimens, which, for the credit of both the gardener and Calceolaria, would be better on the rubbish-heap.

If you inquire the cause why they are not grown, ten out of twelve persons will confess "that they are beautiful things;" but, says one, they are so subject to the green-fly; another says they are so bad to winter—I invariably lose them at that season; a third says that they die as soon as they have done blooming; and one good gardener told me the other day, "If a person gets them to do well once in his life-time, he has had his share of good luck." Now in answer to the first, are not Geraniums, Cinerarias, and a host of other plants which these men "grow respectably," subject to the green-fly? and will not the smoke of tobacco, with which he kills the fly attacking his Geraniums, kill the fly which is on Calceolarias? As to their being hard to winter, it is more fanciful than real. If a person attempt to keep the "old plants" it may be true; but if cuttings are struck in August or September, and be potted in 4-inch pots in October, and kept in a cold frame until Christmas, then placed on a shelf in the greenhouse "near the source of ventilation," not kept *too wet*, not more than one in a hundred, if even that, will go off in winter.

Then as to being subject to die soon after blooming. Now this is the *critical time*, I allow, but it is as much the gardener's neglect as the tendency of the plant; not but he has many extenuating circumstances, for it happens that when the Calceolaria requires most attention he has, in consequence of other duties, least time to attend to them. Perhaps circumstances have previously tended to exhaust the plants; such as blooming them in small pots, and in a house where *fire heat* was employed, perhaps for grapes, &c., or probably the sun shining *direct upon them*, and not having sufficiency of air. All, or some of these causes, together with the large quantity of bloom they invariably produce, will, I have no doubt, cause exhausted nature to give in.

But if the grower of Calceolarias would consider of where they are natives, and under what circumstances they there grow, it would point to an entirely different mode of treatment, and the complaint would vanish, at least to any serious extent.

They are natives of the Andes Mountains, through Chili, Peru, and Patagonia, and there form a belt round the hill not far below the *snow line*, and the south winds from the Pacific Ocean blow on them, loaded with moisture, during eight or nine months in the year.

Now, being *natives of the hills or mountains*, (which shows that they want a light soil and abundance of air), *not far below the snow-line*, that the melting snow in summer will plentifully supply them with *cold water*, which plainly says *no codling* for me. Most plants from warmer countries are benefited by having their *roots warmer* than their *branches*; but with Calceolarias this is not the case, which shows that we should not inquire from what *country* a plant comes, but under what circumstances it *grows* in its native habitat. *The south wind blows upon them from the Pacific Ocean for so many months in the year*, again shows that *air*, "abundance of *moist air*," (for the wind blowing from the sea will be loaded with moisture), not dry, parching winds of our March, nor the *hot dry air* of our July and August, but an imitation of our soft balmy days of April and May. Though they enjoy "abundance of moisture," actual *stagnant damp* is certain destruction.

If the cultivation be carried on on the above principles, these plants, when in bloom, will be clothed with fine green healthy foliage, which is "a certain sign that the roots are active." When the plants have done blooming cut off the flower-stalks, but not too low, "just above the foliage," and remove them to a *cold frame*, facing *north* or *east*. If any green fly appear, immediately fumigate well with tobacco. In the day time keep the lights *close*, except in *very warm* weather, when tilt them; shade also from the glaring sun. At night *remove* the sashes altogether (except in very heavy rains), as the night dews are very beneficial; by this treatment they will soon begin to throw up young shoots.

Propagation.—Select a place shaded from the mid-day sun, say under a north wall or hedge (not under the drip of trees); spread six inches of rough cinder or coal ashes over the space requisite to hold the number you want, then put on six inches of the following compost:—leaf-mould, loam, and silver-sand in equal quantities; the whole passed through a fine sieve. Let the *rough* be placed next to the ashes, and over all this put half an inch of silver sand; water the whole; place on the land lights to mark the places. Take young shoots, as above mentioned, in the beginning of September, prick them in the prepared bed, and place over them the glasses, keep them close, syringe them frequently, and not many will fail to grow.

Time of potting.—Pot the cuttings, when rooted, into four or five-inch pots to winter in. In February give them a shift into six or seven-inch pots, and when the roots reach the outside of this soil put them into their blooming pots, say from eight to twelve-inch pots, according to the probabilities of the plant.

Soil.—For wintering, loam and leaf-mould one part each, and half a part of sand; for February potting, loam and leaf-mould one part each, sand and rotten dung half a part each, and for final potting add more dung.

(We shall be obliged by the other communication.—EDITOR.)

CULTURE OF THE CINERARIA.

BY MR. F. THORNE, OF SHUCKBURGH PARK.

THIS genus may now be classed amongst the "showy early flowering" plants which this country possesses, and, with judicious management, may be had in bloom nearly *all the year*, by re-potting at different seasons. From January to the end of June is the proper time to have them in the highest perfection, and when highly cultivated during these months they are very beautiful, and the admiration of all who are lovers of flowers and fond of seeing a perfect mass of bloom, almost in numberless colours, when grown from seeds. These plants, by some, have been discarded through being so very much subject to the Aphis (green fly); this, to a certain extent, can be greatly prevented by keeping the plants in a vigorous state of growth, and by removing all dead leaves, which I find to be the case when a dense foliage is produced. At no time allow the plants to suffer from want of water, as they are very gross feeders of this element, particularly so when they are fairly established in their flowering pots. Treated as above described, I have observed that the green fly seldom makes its appearance. A slight fumigation, at times, is quite indispensible, as a preventative is better than a safe cure. During April and the following months, as the flowers begin to fade, the tops must be cut close off and set out of doors, when all danger of frost is over. In this state they must remain until a fresh growth is produced, at which time they must be divided and re-potted into sixty-sized pots, using leaf-mould, loam, and sand; then being placed in a cool frame, shaded from the sun, for about two weeks; after which they are again set out of doors in a shady situation, and re-potted into larger sized pots when rooted sufficiently. I believe a greater "mass of bloom" may be obtained when the plants are grown in thirty-two's, than in pots of a larger size; but where "large specimens" are the object in view, twenty-four's and sixteen's must be used; in these sizes they make enormous plants. The following compost I generally use, which I find the plants to grow in very luxuriantly. Two parts loam, one leaf mould, and one part "two years old cow-dung, with about one-fourth silver sand," placing in the bottom of the pot, *above the drainage*, clay and burnt earth, to act as absorbents. Water regularly with that mixed at the rate of one gallon liquid to sixteen gallons of water, the effect will be surprising. A collection of these charming blooming plants merits a place in every green-house, pit-frame, or sitting-room window, being beautiful as well as fragrant.

EXTRACT OF REMARKS ON MAGNOLIA GRANDIFLORA.

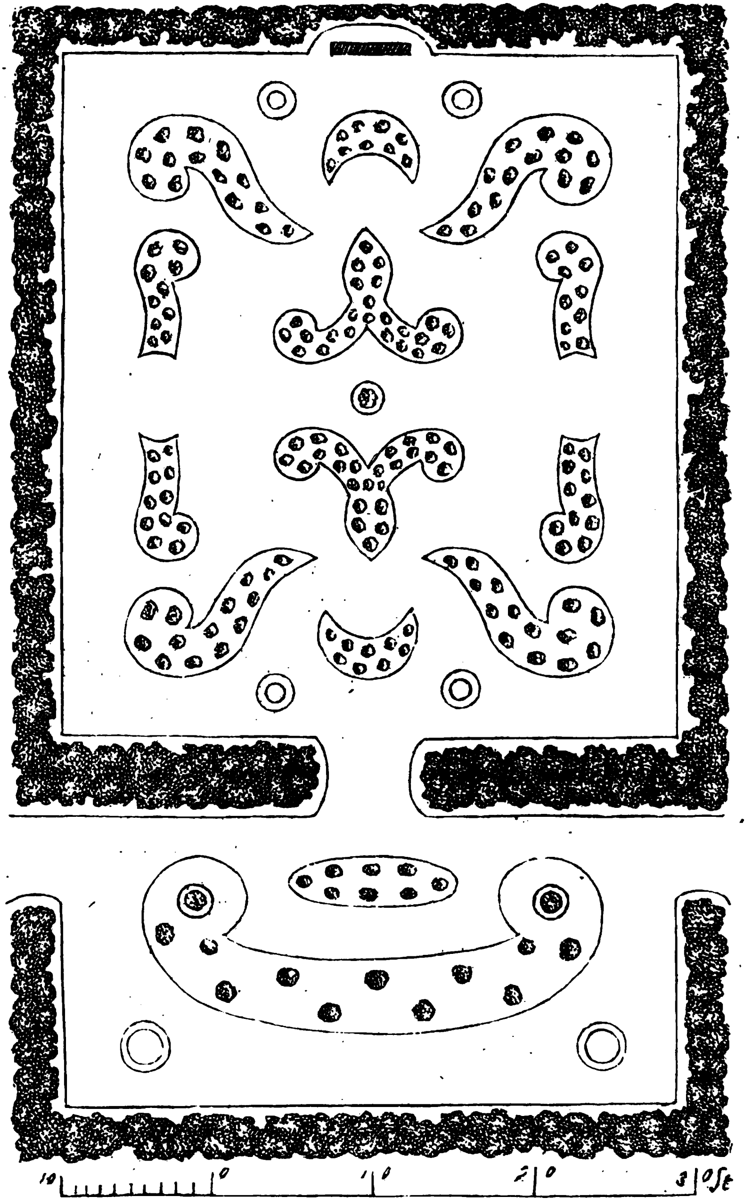
BY MR. JOHN SAUL, OF WASHINGTON, UNITED STATES.

IN the Horticultural Society's Journal, vol. viii., page 22, there is an interesting article on this noble plant. After remarking about its growth in America, he observes, "If cultivators in England, therefore, wish to follow nature and attain success, they must plant 'in *well-drained* soil,'—any soil will do, in an airy, open situation, where the tree will get all the sun possible. No cold in England will hurt the plant, provided the new wood is *well-ripened*, and it may be planted as standards in the most northern counties. In this country, where the wood is well matured, young plants bloom most abundantly during June. I have observed many persons in England house the plant in winter; there will be no necessity, if the young wood be ripe. How often is this plant turned out against a south wall, in a well-made border, and well sheltered? In such situations the plant grows freely, very often too freely, *and late*, if it is not injured by frost; the wood is then so soft and unripe that it cannot produce a bloom until the plant is old and stunted. The only trees in Britain which I have seen 'properly placed,' were in the Isle of Wight and Devonshire; there they appeared to me to have been planted chiefly in the natural 'well-drained' soil, in which they did not grow so rapidly as in rich borders. They grew moderately, very bushy, ripened their wood well, and the result was abundance of bloom.

"If this tree looks grand in sequestered spots, will it not also prove effective in masses or clumps in the garden, the shrubbery, or the park? There it would be at home, giving a massiveness and boldness to the landscape."

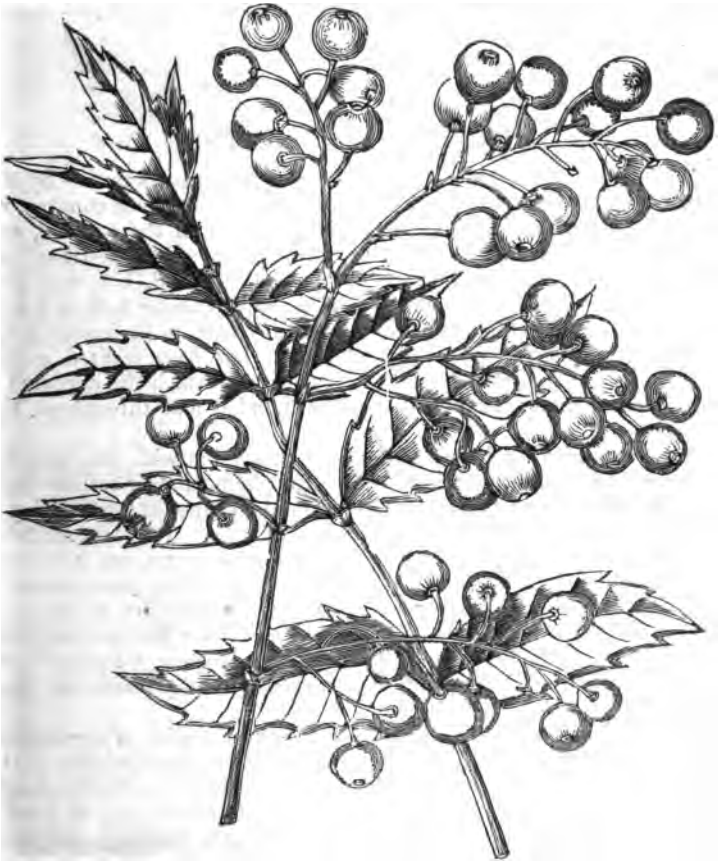
PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 3.



A YOUNG lady of my acquaintance having asked me for a design for a small parterre, so as to leave ample space on the gravel for walking among the beds, I presented to her the accompanying sketch, which, being approved of, was laid out, and has been much admired. Box edgings form the shape of the clumps. The small circle in the middle, and those, one in each end of the scroll, are for pillars of Roses: and the vacant circles for vases, to contain choice flowers. The scroll and long oval clump, are intended for a small Rosarium, and for Dahlias, planted between, to succeed the Roses when out of bloom. A seat is placed opposite the entrance.

BERBERIS PALLIDA, *(or, Mahonia pallida)*.



THIS handsome evergreen shrub is a native of Mexico, where it grows from six to eight feet high, on mountains thinly covered with Pinus

Llaveana. It is a beautiful graceful plant, blooming in spring; the flowers are nearly *white*. The berries are of a deep purple colour, being produced in *large*, loose panicles, have a charming appearance during autumn and winter. It is a free growing shrub, growing best in equal parts of sandy loam and leaf-mould, with bits of charcoal and bone-dust sprinkled therein. It flourishes out doors in warm sheltered situations; but it thrives best in a greenhouse, and being in a pot the plant is easily kept to any desired size. All the evergreen Berberis or Mahonias merit a place in every establishment. Most of them are admirable for planting as underwood; they soon make a beautiful evergreen cover. They may be procured at a very reasonable price, and grow freely. The B. aquifolia (Mahonia aquifolia) is a charming underwood shrub. The scarce sorts, being grafted or inarched into a stock of this species, soon unite. The best time to do it is just before the plant pushes in spring.

MISCELLANEOUS SECTION.

FORMATION OF BUSHY PLANTS OF THE PELARGONIUM.—By the skill and industry of the floral plant cultivators of our own country, we now not only possess the most extensive collection of these plants, but the most superb varieties. They are divided into several sections, but alike admirable, and which are not only unequalled, but rank pre-eminently superior to the collections of any other country both in plants and flowers. We think, that the nearest approach to perfection in the formation of plants, and display of bloom, has been realized in this universally-admired class of flowers, evidence of which has appeared at the various EXHIBITIONS both around London and throughout this country.

Such exquisite specimens are only produced but with practical skill and careful attention, commencing with the plants at their earliest stage. The object our growers have in view is to obtain the greatest display of vigorous bloom, and upon the best formed plants. The "pyramidal"-shaped would be the most elegant; but after many attempts it is found that a regular disposition of the flowers over the entire plant cannot be obtained, for the most vigorous shoots and flowers are at the upper portion of the plant, and the flowers at the lower part are but thinly scattered and of inferior size. To obtain fine blooms, "equally" distributed over the entire plant, low, spreading, bushy plants are much the best.

Many of our readers do not know the exact routine of management in producing such plants, and some useful particulars relative to that subject having been inserted in that very excellent work, *The Gardener's Magazine of Botany*, published by Messrs. Orr and Co., of London (see Notice to Correspondents on Wrapper of this Number), and in the *Flore* of Mr. L. Van Hoote, of Belgium, which details are illustrated by engravings, and from the following extract our readers will see the practical process. It commences with "having a *young plant*, recently struck, in a small pot, in October," and proceeds to a fully formed plant suited to embellish any floral establishment.

The following treatment is particularly adapted to plants of the *Fancy Class* Pelargoniums.

In October the young plant must have the head cut off, leaving but three buds to push shoots, as is represented in Fig. 1.

When the three shoots have grown about five inches long the ends must be stopped, in order to induce them to push side shoots, and which are allowed to bloom the following summer. Care is taken to have the wood well ripened by full exposure at the closing period of summer to the sun; the shoots are then cut in and the pruned plant is as represented in Fig. 2.

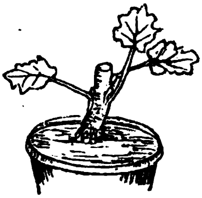


Fig 1.

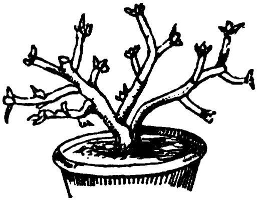


Fig. 2.

The plant is then grown and bloomed a third season, and during this season the shoots are thinned and arranged by securing them in proper position, in order to duly form the plant. To effect this, the lower branches are carefully bent down and secured in a depressed manner, by means of pegs or sticks; or having a wire girth round the pot, just under the rim, the shoots are tied down, so as properly to distribute them in every part of the plant, and arrange the branches into the position they are intended hereafter to occupy. After blooming, and having the wood properly ripened, it is pruned, and the branches are secured to their permanent situation, as represented in Fig. 3.

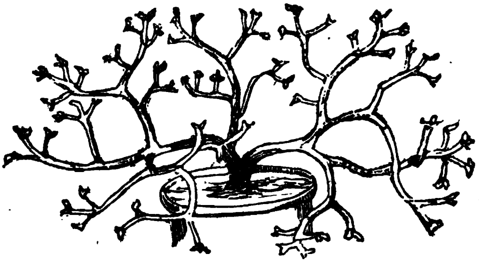


Fig. 3.

The following year the plant will be as large as is required for all ordinary purposes. And one, properly treated, of the more vigorous growers, would now be several feet across: a celebrated grower of the

Fancy Class states, "from four to six feet in diameter, and having a thousand trusses of flowers."

A plant having been duly attended to during its fourth season, and being pruned, is represented in Fig 4.

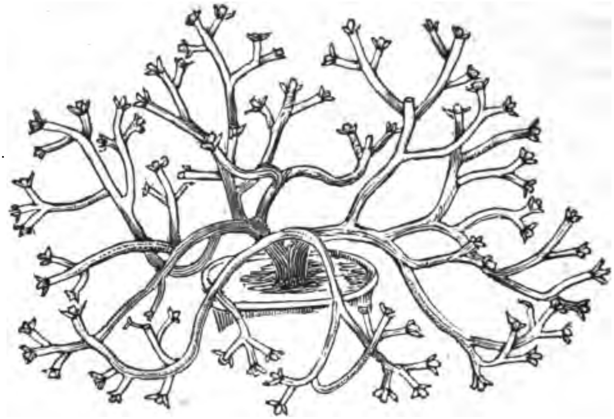


Fig. 4.

This routine of culture in formation of specimens is equally applicable to the large growing class of Pelargoniums, but it is not now customary to have plants of the fourth year's standing for competition at the Exhibitions. Formerly long-legged ones, many years old, were brought on such occasions.

GARDEN LABELS.—Experiments are the stepping-stones to progress, and progress is the pioneer of discovery. I hit upon a plan lately for labelling my border-flowers, which seems likely to prove a good one. The label is of wood, but instead of being *written* upon, a number only is used, and this number is *burnt into the wood*. The following simple plan effects the object:—Get two flat pieces of iron, one of them half an inch, and the other three quarters of an inch wide; let both be about seven inches long, an eighth of an inch thick, and tapered to points at one end; leave the narrow piece of iron flat, but curve the broad end of the other into the form of a C; insert the pointed ends of each into a cork, to serve for handles; and with these tools, which a blacksmith will make for twopence, you may mark any number of labels you please, using, however, *letters* instead of *ciphers*—thus, 90 would be XC. It is a nice amusement of a winter's evening to sit by the fireside, with a table before you covered with labels, and by means of these irons (I use two), inserted in the fire, stamp the labels, one after the other as the irons become hot. Practice makes perfect, and a few trials will insure accuracy and despatch. The advantages of the plan are simplicity, cheapness, and durability, besides which you have the operation in your own hands, and can mark any odd label, or number of labels, as you want them. A lady, who is one of my family, says that the plan is a capital one; the truth is, that she excels me in marking the labels, both in speed and execution.—(*Cottage Gardener*).

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

WE refer our readers to the last month's Calendar for many things which require attention now. Finish pruning Roses. Many kinds of shrubs may be increased by layering, similar to Carnations. Perennial herbaceous plants increase by division. Hardy annuals, to bloom early, may be sown. Bedding plants must be provided by sowing, striking cuttings, repotting last autumn-struck cuttings, &c. Sow Stocks, Asters, &c., in pots or beds.

FLORISTS' FLOWERS.—*Auriculas* and *Polyanthuses:* admit air on all favourable occasions. Manure-water should be given once a week. Sheep's-dung, put into a tub, and soft water poured upon it, in quantity so as to form a strong liquid, is very serviceable. The dung must be collected for a few weeks before using. Old cow-dung will also answer the same purpose. Sow seeds of above. If too many blossoms show, thin them directly.

Anemones and *Ranunculuses* must be finished planting immediately. If no bed has been prepared for them, it may be made by taking out the soil to the depth of fifteen or eighteen inches, and replacing it at the bottom with a layer three or four inches thick of cow-dung, and filling up with soil composed of *decayed* turfs taken from a loamy pasture. Such as were planted in the autumn will now be making their appearance above ground. It is very necessary to keep the soil *closed firmly* round the crown of the plant; when this is neglected, the bloom suffers. *Tulips* require continued attention, as directed last month. Any that happen to be affected with canker will appear sickly; the roots should be examined, and the damaged part cut clean out. If left exposed to sun and air, the parts will soon dry and heal. Avoid *frosty air* getting to the wound by exposure. If by any casualty the plants are frozen, then, early in the morning, sprinkle the tops over with cold water, and keep them covered over for an hour or so before they be exposed, as the sun must not be allowed to shine upon them until the frost is all out. *Carnations* and *Picotees* may, at the end of the month, receive their final shifting. The pots known as No. 12's are the size usually employed. In potting, place at the bottom two inches deep of crocks, to give free drainage. Use a compost—which is best if it has been previously prepared and become well incorporated together—of these proportions,—two barrows full of fresh yellow loam, three of well-rotted horse-dung, and half a barrowful of river-sand, well mixed; plant in it *without sifting,* by breaking very well with the spade. Place the plants in a sheltered situation out of doors, but where they will have *plenty of air.* Where frost has disturbed the roots of

Pansies in beds, they should be pressed into their places, and a top-dressing of rich mould given to them all over the bed. They *must* be screened from cutting winds by fir, yew, or whin branches. In forming new beds, the situation must be where there is the benefit of free air. Plants in pots, under glass, will require shifting into larger sizes; for as this is the period when they begin to grow, they will soon become weak, and bloom out of character, if confined in small pots. If beds of *Pinks* were not planted in autumn, early in this month they may be. In removing the plants, whether out of pots or open ground, be careful to retain all the ball of roots, and as uninjured as possible. Protect beds from cold easterly winds. Press she soil firm round the plants.

IN THE FORCING STOVE.

Sow seeds of any tender and half-hardy annuals that have been omitted. Sow liberally of *Cinerarias* and *Chinese Primroses*, for if the plants be properly attended to, they will produce a fine bloom for autumn. In watering tender annuals, &c., it must not be over the tops, or many of the sorts will be rotted by it. The best method is to flood over the surface of each pot, always using tepid water. Annuals sown in frames—*Cockscombs, Balsams, Thunbergias,* &c.—if large enough to pot, should be in 60-sized pots.

Sow seeds of *Dahlias, Fuchsias,* &c., Seeds of most greenhouse plants will do well if sown now. Repot and forward *Amaryllises, Gesnerias,* &c., as directed last month. *Ipomeas, Echites,* and similar plants, may be trimmed in, disrooted when necessary, and brought here to excite early growth.

IN THE GREENHOUSE, &c.

Continue to admit all air possible. Repot the various inmates, as required, from time to time, and examine to see that the drainage is free. Supply *Cinerarias* with manure-water occasionally. Save them from green fly; smoke or tobacco-water must be applied at the first attack. Pot off seedlings, &c., for successive bloom. Immediately stop the shoots of *Pelargoniums* which are to bloom from June, in order to induce new lateral ones. Let Pelargoniums have plenty of air, but close up early in the afternoon. Syringe overhead twice a week after shutting up. In watering, give enough to moisten the entire soil.

Cupheas, Calceolarias, Verbenas, Petunias, Fuchsias, and other young stock, must, as growth advances, have the *shoots stopped,* which will cause them to be bushy, forming cuttings of the young shoots.

Camellias exhausted with flowering should now receive a little extra attention; remove them to a cooler situation for three weeks, on the principle of slow breaking, and give the root a chance of overtaking, in some degree, the expenditure which has taken place in the system. Any pruning necessary perform at this time; no plant can succeed better, after judicious pruning, than the Camellia.

See that *Lilium speciosum,* &c., are not saturated by watering.

BRIEF REMARKS.

Horticultural Society, Feb. 15.—Few plants were produced on this occasion, owing to the sudden severity of the weather, the thermometer on the night previous to the meeting indicating no less than 14° of frost. This will sufficiently explain why no Camellias were shown, although they formed one of the subjects for which special prizes were offered at this meeting. Of other plants Mr. Glendinning, of the Chiswick nursery, sent a variety of Franciscea hydrangeæformis, called elegans, which was stated to be an improvement on the species, inasmuch as its general constitution was more robust, its leaves broader, and not liable to die off at the ends, a fault which belongs to the original plant. The same exhibitor obtained a Certificate of Merit for Rogiera amœna, a plant of considerable beauty, introduced into this country through the German gardens, and a similar award for Geissomeria nitida, a scarlet-flowered Acanthad, nearly related to Aphelandra, that when fully in flower, which the plant in question was not, promises to be very handsome.

A Certificate was awarded.—The Hon. W. F. Strangways again furnished some Hellebores, and cut specimens of other interesting plants, which are at present in flower in his garden at Abbotsbury, in Dorsetshire. Among them was the rare H. abchasicus, a pale Russian species little known; and the Euphorbia mellifera from the Canaries, a bush quite hardy at Abbotsbury. Mr. J. Young, Taunton, Somerset, also sent a branch beautifully in flower of Acacia dealbata, a handsome species, concerning the hardiness of which several notices were published in our columns last year. Mr. Young stated that the tree from which it was taken had been growing in his garden about twenty years, away from any wall or building, and without any protection; and that it is at this time, notwithstanding the frost, a truly beautiful object, about twenty-three feet high, and covered with its honey-scented flowers.—Among miscellaneous subjects was an example of the kind of bell-glasses the French use in the neighbourhood of Paris for promoting the growth of Cauliflowers and other market-garden crops which it is desirable to obtain early. It was made of good strong glass, about fifteen inches high, and nearly the same in width at the mouth. It was stated that such glasses cost only about 7½*d.* each, and it was hinted that it might be found worth the while of English glass manufacturers to make similar protections for the benefit of gardening in this country.—Mr. Adamson, jun., furnished specimens of his new Portland cement edging tile, mentioned in our report of the Society's Garden at p. 87. A gas-heating contrivance, the invention of Mr. Cuthill, of Camberwell, was exhibited. It consists of a hemispherical cast-iron chamber, to the top of which is attached a pipe which, after being led along the house to be warmed, is returned, and discharges itself outside. The chamber is intended to be built in the end wall with as much of the dome inside as possible, leaving an opening outside (to which a door is affixed) for introducing the gas-burner which is to heat the apparatus. It was stated, that if it is possible (which Mr. Cuthill is confident it is) to render the joints sufficiently tight to prevent leakage, this invention might be found useful, near places having gas laid on, in heating winter gardens and small houses, which it is very difficult otherwise to warm without overheating. Mr. Cuthill stated that a contrivance of this description in a greenhouse 12 feet by 8 feet, has been found to work satisfactorily with a gentleman in the Old Kent-road, and that a heat of 45° could be maintained with ease when there were 12° of frost outside.—From the garden of the Society came Acacia ixiophylia and linifolia, Rhynchospermum jasminoides (frost-bitten on its way to the meeting in a covered van), Corræa Goodii, three varieties of Epiacris, Echeveria rosea and retusa, two useful winter flowering hardy greenhouse plants, three Camellias, cut flowers of Luculia gratissima, which is now blossoming beautifully in the great conservatory; a good example of Cardoon (Cardon de Tours); and Lettuces Laitue chou de Naples, from the south slope of a ridge, and Romaine vert d'Hiver, both excellent sorts for winter cultivation.

Improvements in the Preservation of Woods and Metals from Decay.—(Machabee's Patent, enrolled Dec. 8.)—The composition specified in this patent is formed by melting together 3½ parts of vegetable tar, one part of mineral tar, one-sixth part of resin turpentine of Pinus Larix, one-third part of wax, one-sixth part of white grease, with or without the addition of one-third part of Roman cement, and a similar quantity of hydraulic lime in fine and sifted powder. The mineral ingredients are added to the others when in a boiling state, but are only required in those cases in which the material to be coated with the composition of mastic is to be exposed to the action of heat. The composition is applicable to wood, metal, brickwork, &c., the surfaces of which must be well cleaned prior to its application, which may be effected by means of a brush, whilst in a heated state, and any number of coats may be employed. When the composition is used for covering the inner surfaces of walls, a coating of plaster is applied over the mastic. —*Pharmaceutical Journal.*

IPOMOPSIS ELEGANS.—In the *Horticultural Society's Journal*, Mr. John Saul, of Washington, United States, writes, that this handsome flowering plant ripens seed in abundance in the open air in that country, and when a portion of it is allowed to fall upon the ground the plants soon spring up, in borders, rock work, or even walks. And although the winter be severe, even to six degrees below zero, the plants are not in the least injured, but bloom vigorously the following summer. It is impossible for a person who has only seen the miserable examples of this plant usually grown in England to form any idea of the brilliancy of colouring (scarlet) which the blooms acquire here. If the flower-spike is removed just when "its beauty *begins*," so as to prevent its seeding, it will throw out many side shoots, which will continue in bloom during the whole summer. (Some years ago, we saw in England, and mentioned it in this magazine, a number of splendid specimens in bloom, which had been stopped as here described. They had large heads of their very showy blossoms in numerous long spikes.—Editor). It must be recollected too, that all this is going on under a bright sun and burning heat. Mr. Saul adds, "Were I now cultivating this plant in England, I would sow the seed out of doors about August on rock-work, or a dry border; thin the plants, if too thick, and keep free of weeds; this would be all required until spring. If on a dry bottom, cold will never harm them. If too thick, transplant some in April, and they will take to their new quarters as free as cabbages. When sown, let the site be *dry*, very warm, and where they will have full sun. Transplanted ones also be so placed." (The specimens we saw, as above referred to, were so superior to what we had previously seen, that they quite astonished us.—Editor.)

WINTER BLOOMING PLANTS—The following are fine ornaments for a greenhouse, conservatory, or sitting-room during winter:

The *Chinese Primula*, as a small winter flowering plant, has no equal. On account of its compactness and beauty, as well as the length of time it lasts in bloom, it is well worth attention and space; it flowers best when most wanted, *i. e.*, between the months of November and May; it is, however, seldom grown well; the seed, generally speaking, is not sown early enough. To have it very fine, sending up dense bunches of flowers, larger collectively than a man's hat, the seed should be sown some time between August and February. When very large bunches are wanted, three plants should be grown together in a pot; they thrive well in leaf and peat, mixed with sand. The old plants are eligible for autumn flowering or the borders.

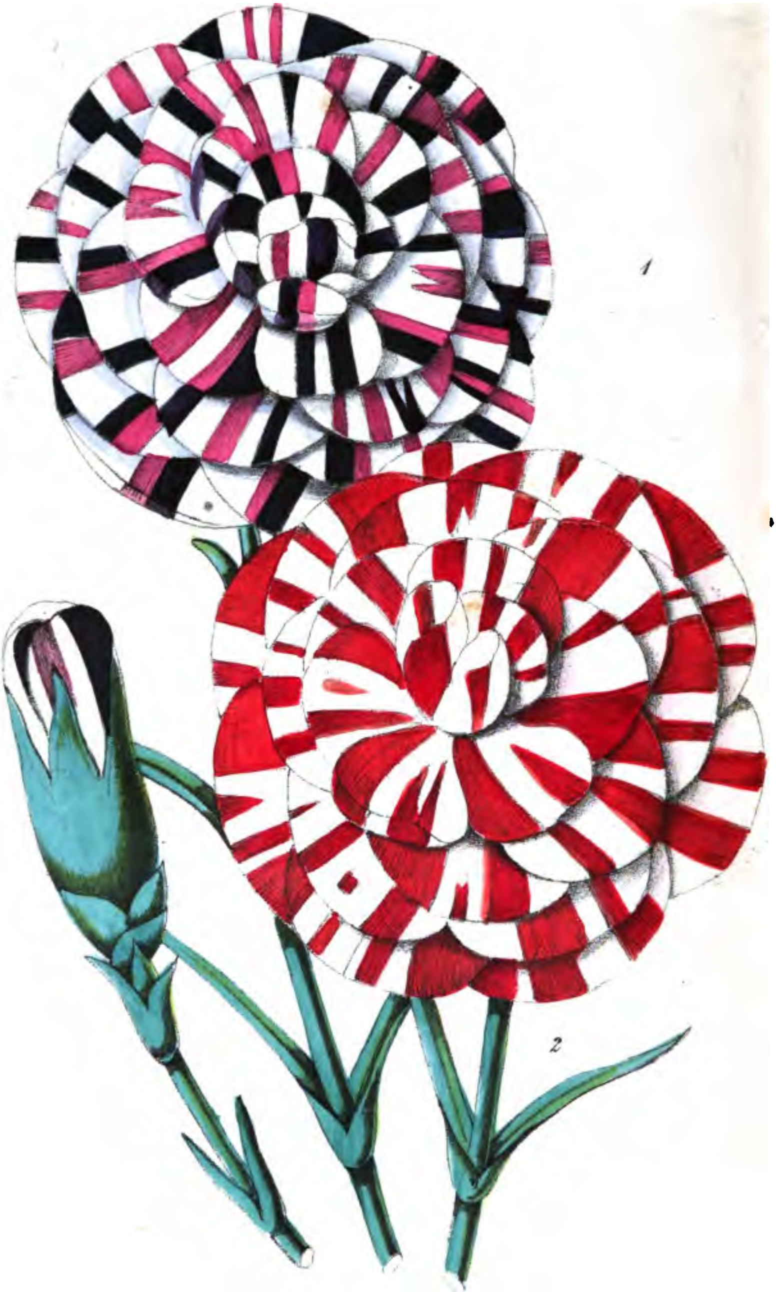
The *Ageratum*, as an autumn and winter flowering plant, is grown here in great abundance. We take fifty plants of Ageratum from the "bedding stuff," and plant them three feet apart in a convenient place in the kitchen garden. The shoots are topped and thinned all the summer, the last stopping being about the end of August. They are lifted as late as possible to escape frost, with large balls, and potted. When a plant thus treated is in full flower, it presents to the eye a sheet of blue or lavender blossom, two feet across. It is pretty in nosegays.

The *Cineraria* is beautiful at all seasons, but it is most needed in autumn and winter. It is propagated by seed, and dividing the roots. For spring flowering, dividing the roots in autumn answers very well; but for autumn and winter decoration, seed is necessary. We have to sow it in the month of February at Manchester, about London the month of April is soon enough. The Cineraria does not thrive when exposed to the *direct rays* of the sun; it is therefore necessary to grow it *in summer* on the north side of a wall or hedge." —*Gardener's Chronicle.*

Cuphea Platycentra is another charming bloomer. Sow seed in June, pot off singly as soon as fit, place them in an open frame, stop the buds when six to nine inches high; they will push numerous side shoots, and form bushy plants, which will bloom from October throughout winter, and then be fine for planting in the open beds in May. Their pretty tube-shaped flowers of scarlet, black, and white top, borne in profusion, have a very cheerful appearance.

Several of the Salvias, too, make fine objects. Young plants raised in May, having shoot stopped, to make them dwarf and bushy during summer, will bloom throughout winter and spring.

Deutzia Gracilis forms a neat bushy plant, and is covered with its racemes of pearl-white flowers, blooms all winter and spring. So does the yellow blooming Jasminum Nudiflorum. The yellow Coronillas, and Cylisuses also, form pretty contrasts with the above scarlet, blue, rose, white, &c. All these I have had in bloom since last October.—*Flora, Middlesex.*



1. Black Diamond.
2. Justice Shallow.

APRIL, 1853.

> "Hail! bounteous Spring, that doth inspire
> Mirth and youth, and warm desire;
> Woods and groves are of thy dressing,
> Hill and dale doth boast thy blessing.
> MILTON.

ILLUSTRATIONS.

CARNATION.—No. 1. HAYNES'S BLACK DIAMOND.
No. 2. MAY'S JUSTICE SHALLOW.

> "Let yon admired Carnation own
> Not all was meant for raiment, or for food;
> Not all for needful use alone;
> There while the seeds of future blossoms dwell,
> 'Tis colour'd for the sight, perfumed to please the smell."

DIANTHUS CARYOPHYLLUS, FLORA-PLENO.—"The double-flowered Carnation." The generic name "Dianthus" is derived from *dios*, divine; and *anthus*, flower; "Divine-Flower," or, as some ancient writers term it, "Jove's Flower." It is now made the emblem of "lively and pure affection."

The Carnation was in high estimation in Queen Elizabeth's time, and was often celebrated by the poets of her day. Spencer, who was remarkable for his care in retaining the old manner of spelling, calls them CORONATIONS, probably because they were specially used on those occasions; and from hence the name "Carnation" is a corruption. Some writers assert it was called "Carnation" from *carnea*, a *flesh-colour* being the colour of the original flower:

> "Carnation'd like a sleeping infant's cheek."—BYRON.

The Romans seldom sat down at their meals without wearing chaplets of flowers; and it is recorded, that as early as the time of Cæsar Augustus (upwards of eighteen hundred years ago), Carnations were held by them in high esteem for those purposes. Whether the flowers were single only, or double ones had then been produced, we have not any account thereof. We find, however, that in England, a little more than five hundred years back, there were a considerable number of double ones; and the florists of that day considered them plants of great value, and there were forty-nine named varieties in cultivation. In 1597, Gerard states, "I have a Carnation with *yellow* flowers." But during the civil wars in this country, in the latter part of the reign of Charles I., and of the Commonwealth, these flowers seem to have been nearly lost in England; as Mr. John Rea remarks, in his "Flora" of 1665, "We had formerly many good kinds of Carnations, but few are now to be found." The Dutch then commenced the cultivation of the Carnation; and from thence, during the reign of Charles II., as Rea observes, "Of these Dutch flowers, I have known more than a hundred distinct varieties, by names, all of them fair, large, and double flowers." In a few years after, he enumerates "three hundred and sixty good sorts, all high in his estimation;" we give his own statement:

> "For various colours Tulips most excel,
> And some Anemonies do please as well;
> Ranunculus in richest scarlet shine,
> And Bear's Ears (Auriculas) may these in beautie joyn:
> But yet, if 'ask and have' were in my power,
> Next to the Rose, give me the Gilliflower."

The Carnation was then commonly called "Gilliflower," a corruption of "July-flower," in allusion to the usual time of its blooming.

The florists of France grow Carnations to an immense extent, for the purpose of supplying the markets with cut flowers. The varieties in general are, however, what the Carnation growers of our own country would reject, as being of very inferior shape. The modern florists of Great Britain have paid great attention to improve the form, and yearly there has been an advance both in the shape and better colouring, marking, &c.; so that we now stand very pre-eminently above all other countries for a beauty and perfection in Carnations and Picotees, as well as growing them much superior in all respects to any we have seen elsewhere.

Carnations, as well as Picotees, are divided into several classes; and although well understood by florists and other exhibitors of these flowers, there may be some of our readers who do not know the particular definitions which are indicated by the *colours* of the flowers. Carnations form two principal classes; viz., *Bizarres* and *Flakes*. The BIZARRES are so named from the French word, which signifies "odd, or fantastical;" these have *not less* than *three colours* in each petal of the flower.

Scarlet Bizarres; each petal being *striped* with two colours, "*scarlet* and a *dark maroon*," on a *white* ground, varying in intensity in different sorts.

Crimson Bizarres; the *stripes* also consisting of two colours, but approaching in their tint more to a *rose* colour and *purple*. In this class there is a subdivision, styled "*pink* and *purple* Bizarres," which are lighter and more lively in their shades.

FLAKES are so called from having two colours only (more properly *one* colour) upon the *white* ground of every petal, and their flaky stripes extending quite through the length of the petal. Their colours are scarlet, rose or pink, and purple of various hues, and termed Scarlet Flakes, Rose Flakes, Pink Flakes, and Purple Flakes.

Picotee is from the French *Piquettée*, "pricked or spotted." This term was properly applied, no doubt, to a class of flowers having a white or light ground, being dotted, speckled, &c., with red, rose, purple, &c. Some of our Picotees of the open borders, fifty years ago, were of this character. Modern florists, of our own country, however, have, by hybridizing the flowers, and raising successive seedlings, got rid of the *spotting*, and have obtained flowers having a well-defined coloured edging and a clear white or light ground. Such flowers now constitute our *Picotee* class, though the name is inappropriate as descriptive of the disposition of the colours. We have subdivisions in light-edged and heavy-edged, and of the colour of the edging, as red-edged, rose-edged, &c.

The term *Picotee* is quite appropriate to the general class of Carnation flowers seen in the French markets, a white or flesh-coloured ground, being dotted and speckled enough, with jagged edged petals additionally.

The two flowers we now figure are of very first rate excellence, both in form and marking, deserving a place in every collection.

Black Diamond is a crimson Bizarre, and Justice Shallow a Scarlet Flake. Several articles on the culture of Carnations, &c., by first-rate exhibitors, are given in previous Numbers of this Magazine.

NOTES ON NEW OR RARE PLANTS.

Dipladenia flava.—Mr. Purdie sent this very handsome flowering species from New Grenada to the Royal Gardens of Kew. It is a stove shrubby climber, blooming freely; the flowers are produced in terminal peduncles, of from four to six blossoms in each, of a *rich yellow* colour. Each flower is about two inches and a half across. It is a charming addition to this pretty flowering genus, contrasting beautifully with the flowers of the other species, and being nearly as large as those of the *Allamanda*; they are very ornamental. It merits a place in every plant stove.—Figured in *Bot. Mag.*, 4702.

Impatiens Hookeriana, Hooker's Balsam.—Mr. Thwaites sent seeds of this pretty species from Ceylon to the Royal Gardens of Kew, where plants bloomed last season in the stove. It grows from two to three feet high, erect, succulent, branching. The flowers are produced in subterminal axillary peduncles, each having from four to six blossoms, white, with the centre richly marked with deep blood-coloured veins. Each flower is about two inches and a half across.—Figured in *Bot. Mag.*, 4704.

Galeandra Baueri, floribus luteus.—A stove orchid (in the collection at Syon Gardens) from South America. The flowers are produced in drooping racemes, each having from ten to fourteen blossoms.

Sepals and petals, a full yellow; lip, funnel-shaped, long, of a deep yellow, dotted with blood-coloured lines. Very handsome. Figured in *Bot. Mag.*, 4701.

GYMNOSTACHYUM CEYLANICUM.—Mr. Thwaites sent seeds of it from Ceylon to the Royal Gardens of Kew. The roots are slender and *creeping*, throwing out fibres. The stems are short, bearing from four to six pairs of opposite leaves, which spread out horizontally, oval, nearly four inches long; of a deep green with milk-white broad lines along and on each side of the midrib and lateral veins, rendering its whole appearance beautifully interesting. It has somewhat the resemblance of the Achimenes picta, but the distinct rib and veins are more striking. The flower spike is from six inches to a foot long. The blossoms are small, white, tipped with green and yellow, tube-shaped, nearly an inch long, but very narrow. It blooms freely during winter in the stove.—Figured in *Bot. Mag.*, 4706.

HELIOTROPIUM, *Madame Boucharlat.*—A fine hybrid between H. Souvenir de Liege and H. Voltaireanum. It is of vigorous habit, free, blooming, and the heads of flowers are *very large.* The blossoms are of a bright violet, with a green eye encircled with a pretty yellow ring. It is considered the handsomest of all Heliotropes, and ought to be in every greenhouse, and, in summer, in every flower-garden.

HELIOTROPIUM, *Louis Chaix.*—Another fine hybrid of vigorous habit, raised between *Souvenir de Liege* and *Pericles.* The heads of flowers are large, blossoms of a pretty lilac, with a pure white centre, having a very beautiful appearance. It is a charming variety well-meriting a place in every collection of these universally esteemed plants.

TROPŒOLUM, *Triomphe de Gand.*—A seedling from T. Lobbianum, which was raised by Mr. Van Houtte. The flowers are larger than the parent plant produces, and of a more brilliant orange-scarlet colour. It is an admirable plant for blooming "in profusion" nearly all the year, but especially during winter. Plants may now be had cheap, and it deserves a place in every plant-house.

TROPŒOLUM HOCKERIANUM.—This is another very pretty variety; the flowers are yellow, having each petal handsomely spotted with red. It also blooms freely during winter.

VERONICA ANDERSONII.—This variety from V. speciosa and V. lendlayana is a most charming shrubbery plant, of medium size, and a profuse bloomer. Its pretty rosy-lavender coloured spikes of flower are at all seasons pretty, but particularly so throughout winter. It can be procured cheap, and is well worth possessing.

BEGONIA.—A very handsome seedling raised between B. manicata and B. cinnabarina has bloomed beautifully in the Horticultural Society's Garden. The flowers are of a bright-red colour. It is a charming variety.

CALCEOLARIA VIOLACEA.—It is of the shrubby section, branching freely, and forms a nice bushy plant, blooming in *profusion.* The flowers are of a pretty *blue,* and the lower portion of the flower has a large patch of yellow in the centre of the front, spotted with red. Each blossom is about three parts of an inch across. It is a native of Chili, from whence it was obtained by M. Van Houtte. It is a valuable acquisition.

Petunia, Prince Camille de Rohan.—A very striking variety raised in M. Van Houtte's establishment. Each flower is about three inches across, of a reddish violet colour, beautifully netted with dark veining, and having an edging a quarter of an inch broad, of a rich green. It is singularly handsome.

Rhododendron, The Standard of Flanders.—This magnificent variety is a seedling from R. Cataubiense, impregnated by R. ponticum Pardoloton. It is of a vigorous habit, and its heads of blossoms are very large, nine or more inches across. Each blossom is three inches and a half across the front. The principal ground is of a rosy violet, shading off to a light centre. The upper section of the flower has a very large blotch of rich fiery-red, most handsomely and numerously spotted with black dots. It is unrivalled in its class.—Figured in *V. Houtte's Flora.*

Collectia serratifolia.—A shrubby plant, from Peru, having bright-green branches like the broom, with oval-shaped leaves about the size of a Phillyrea. The flowers are produced in May and June, *small,* of a greenish-white, very fragrant. It grows, freely trained, against the open wall in the Chiswick Garden. Being so remarkably sweet-scented, it is valuable, either grown in the open ground, or in pots.

Abutilon Porchere.—The flowers are of a deep orange-red, beautifully netted with purple.

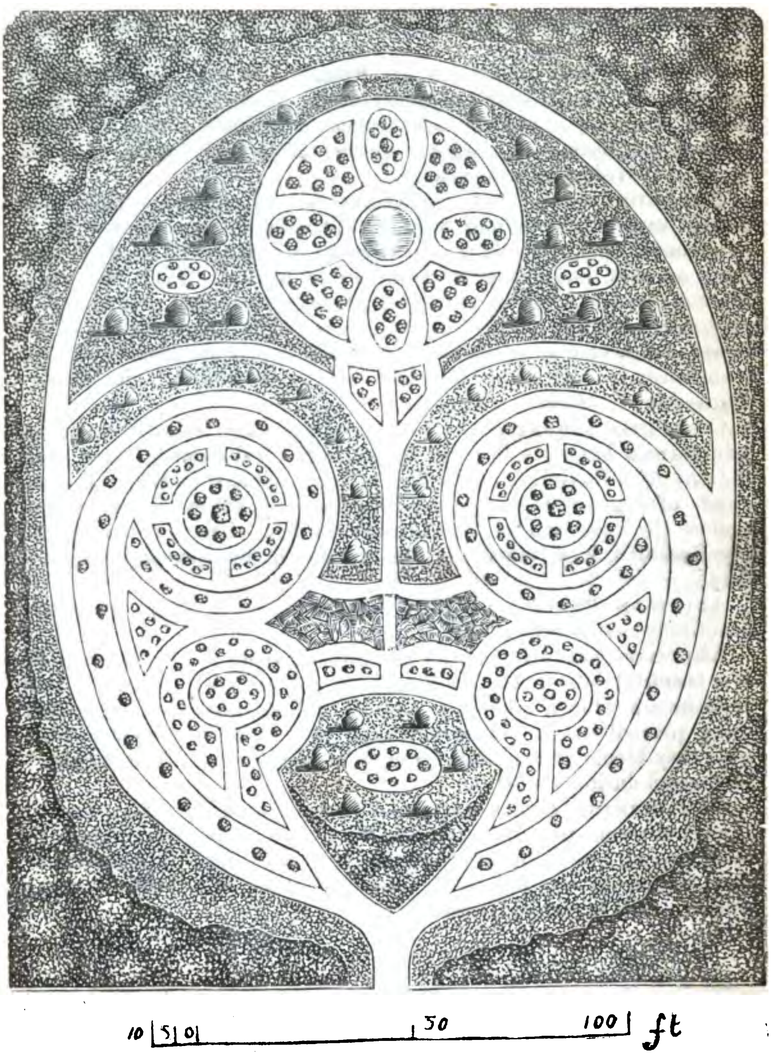
Abutilon Van Houttei.—The ground colour of the blossoms are of a beautiful brown-red, handsomely netted with deep-purple. Both varieties are valuable additions ; and, like all the other kinds we possess, being planted out in the open ground early in May, in a warm situation, they bloom in profusion throughout the summer, then require to be housed during winter.

Comaclinium aurantiacum.—We again notice this fine plant. It is an herbaceous perennial, growing from two to three feet high in the open ground, branching and blooming very profusely. The flowers are very similar to the Zinnias in size and form, of a brilliant orange colour. It is exceedingly ornamental.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 4.

At the entrance of the above design for a flower-garden, stands a thickly-planted shrubbery, meant to prevent at the first approach a full view of the garden. Proceeding on either side round the shrubbery, you come to a lawn, with choice shrubs on the grass, and a clump in the centre. On the wing at either side, the scroles as represented are intended for Roses and Dahlias, the latter to succeed the former



when out of bloom. The interior compartments are for flowers, some for masses, or otherwise, as taste may direct. On each side, near the commencement of the centre walk, a mass of arched rock-work is represented. The compartments for grass are indicated, as seen by shrubs placed thereon. In the detached circular compartment there is a pond in the centre, intended for gold and silver fish, and for a fountain, should water be convenient.

REMARKS ON THE ROSE.

BY MR. PETER MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

The kitchen gardener tries often to make his ground do double duty, by taking what is sometimes called a stolen crop. Perhaps the same system may be introduced to a greater extent in the flower-garden than is commonly done, and may be the means of keeping up the interest of that delightful spot, until the season is far advanced, by prolonging the season of flowers.

There appears to be no end to the increasing number of splendid varieties of the much esteemed family of Roses; and as they find admittance to the flower-garden and pleasure-ground in the shape of standards, such plants may be made to protect others without hurting their beauty or offending their pride. The roses of our day appear to want that haughty spirit which others are represented to have had long ago, for we are told, that—

> "Within the garden's peaceful scene
> Appear'd two lovely foes,
> Aspiring to the rank of queen,
> The Lily and the Rose.
> The Rose soon redden'd into rage,
> And swelling with disdain,
> Appeal'd to many a poet's page
> To prove her right to reign."

We will not seek to dispute "her right to reign," but point out how beneficial she may be in protecting the flowers and other buds from the biting frost of our country, when placed under the sway of her sceptre.

We are told that there are three causes of beauty in a rose-tree; namely, shape, foliage, and flowers. Shape, to a certain degree, we artificially gain; foliage and flowers must depend upon the sort; the foliage is the more permanent, the flower the more striking. Planting out, then, must depend entirely upon the effect desired and the taste of the party planting, as to variety of foliage, height, flower, its colour, and continuity. A tree with rambling shoots suits one place, and with a cauliflower head another; but where taste requires them to be planted in clumps it may be done in a variety of ways; they may be made to look like a sloping bank when finished, by planting different heights in succession. There are different opinions respecting the proper height of standards, some recommending three or four feet standards as being most in keeping with the heads they carry, and being nearer the ground, have a very natural and steady effect, and in confined places they are unquestionably best in their appearance; but if the trees are to be distant from the eye, or the shrubbery or walk be large and increasing in distance, a four or five feet standard is certainly more distinguishable, and has a much greater effect. But without entering into every particular about standard roses, we generally find that there is room for other plants to grow beneath them of more humble dimensions, and thrive well too. Although we have roses that will flower out of doors until winter approaches, yet many of them only flower for a limited period during what may be called the "rosy time of the year;" yet the blow of flowers may be kept up in the same piece of ground until late in the season, by taking advantage of the foliage of the rose-trees.

Plants that are mostly used for bedding out in flower-gardens are somewhat tender, and in exposed places are nearly cut up when the first frost comes; but where they receive such protection as the leafy heads of tree-roses, they will continue blooming for a month or six weeks longer than where there is no such shelter. Flowers of greenhouse plants in such places may be gathered in November, while those of a similar nature, but without such protection, will be found dead, or carried off and wheeled to the dunghill.

Towards the close of autumn, in some seasons, there are many places that have the appearance as if the race of flowers had been swept with the besom of destruction from the face of the earth; it is pleasant to find some situations that may be compared—

> " To a bower of Arcadian sweets,
> Where Flora is still in her prime,
> A fortress to which she retreats
> From the cruel assaults of the clime.
> While earth wears a mantle of snow,
> These flowers are as fresh and as gay
> As the fairest and sweetest that blow
> On the beautiful bosom of May."

AZALEA INDICA, WITH A HINT ON THE CULTURE, AND DESCRIPTION OF TWELVE FINE VARIETIES.

BY MR. J. BURLEY.

THESE handsome greenhouse, partly deciduous shrubs, are, I presume, to be found in winter in bloom in most of the conservatories and greenhouses of the readers of this Magazine. No doubt most of your readers have seen the splendid and gorgeous effect they have when grown well, and attain a large size. For instance, what can equal the effect they produce at our leading London floral shows, where plants may be seen as high as from four to five feet, or even more, with one mass of bloom? Perhaps but very few of your readers would have accommodation to grow them to that size; but no doubt most of them can manage to grow them of moderate size; and even thus they will, when in bloom, form one of the principal winter and early spring gaieties indoors. I shall here give directions how they may be grown, and the soil required for them.

Soil.—Azaleas have been found to succeed when grown in turfy peat; that best known as *Wimbledon* suits them well, with a liberal addition of silver sand. For young plants the peat should be well broken up, and used (in potting) with the fibre, and with plenty of silver sand; and as the plants increase in size, the peat should be broken in larger pieces, increasing the size of them as the plants progress in growth, and require re-potting. In potting them, be careful to always use *clean pots* and liberal drainage; this is "very essential" to secure success.

Let the soil be pressed moderately tight, and leave half an inch clear inside the rim of the pot, to allow plenty of water to be given them when required. The best time to pot them is the month of August.

But few remarks are necessary on their treatment; but the following will be found useful:

Azaleas like to be kept in a warm house, with a temperature in summer of from 65° to 75° Fahrenheit, and in winter, 50° to 55° will do,—except when wanted to bloom them early, when they may be placed in still greater heat. After blooming they will require to be kept at the above temperatures, from 65° to 75°, in order to encourage the setting of the buds for the ensuing year's flowers; and let them be well syringed (particularly the under-side of the leaves) "every day," as the red spider is apt to attack them when kept in a hot place. After the flower-buds are set, air may be admitted freely; and in summer keep them "always *moist*" (not soddened), and shade them from the mid-day sun. In winter, or after potting, they sometimes lose a portion of their foliage; when this is the case, withhold giving water, except just enough to keep the soil moist. Those whose leaves drop, should be arranged on a stage or platform "by themselves," for when mixed with other plants they give the whole an untidy appearance; but when placed by themselves, they may be easily cleaned and be duly attended to.

ALBA LUTESCENS.—Fine white, beautifully spotted with red, and having a tinge of yellow.

AURORA.—Bright scarlet, large fine flower.

BEAUTY OF REIGATE.—White, distinctly striped with rosy carmine.

CHELONII.—Beautiful pink, with extra good qualities.

DUKE OF DEVONSHIRE.—Splendid scarlet, free bloomer.

EMPEROR.—Fiery scarlet, quite distinct.

EXQUISITE.—Violet pink, spotted with red, and having a distinct white edging. Good form and free bloomer.

GLORY OF SUNNING HILL.—A very fine large double pink flower, rich and fine.

CONQUEROR.—Large orange carmine, a most handsome variety, free bloomer.

MRS. FRY.—Bright carmine, free bloomer, and extra size flower.

PERRYANA.—Splendid dark orange-scarlet, fine form.

SYMMETRY.—Salmon-pink, richly spotted with crimson, fine flower.

VESTA.—The finest white, fine form and profuse flower.

VITTATA.—White, spotted and striped with violet, fine flower.

Young plants of the above may be purchased from 2s. 6d. to 7s. 6d. each.

CULTURE OF THE TORENIA ASIATICA.

BY MR. F. THORNE, OF SHUCKBOROUGH PARK.

THIS very pretty flowering plant is a native of the East Indies, and was introduced into this country in 1823. It derives its name from the Rev. Olof Toren, a Swedish botanist. It is a valuable stove trailing-plant and blooms all the year, when it is properly treated, and it ought to be in every collection of stove plants. During the growing season it delights in a high and moist temperature and partially shaded from the summer's sun: they succeed well under the shade of vines. When in flower the plants require a *drier situation*, to preserve the blooms and foliage in a perfect state. Cuttings are struck about the middle of August; they root freely in leaf mould and sand, plunged to the rim in a medium bottom heat. During autumn and winter keep them in almost a dormant state, giving only just enough water to preserve life. Although cuttings when well rooted are very apt to damp off during the dull months of winter, place them in a cool and dry part of the stove and keep them there till February, then pot them into sixty-sized pots and plunge them to the rim, where there is *bottom* heat at seventy degrees. By the end of March they will require a re-potting, and at this period I generally put *three plants* into a thirteen-inch pot with a liberal drainage, using a compost of equal parts of sandy peat and well-rotted cow-dung, with leaf mould and a few bits of charcoal; after which I allow the shoots to grow naturally for some few weeks, till they are about two feet in length, as it greatly promotes growth; then those intended to be trained are tied up to vine trellaces of any shape, according to the taste of the operator. A plant or two in wire baskets suspended from the roof have a very pretty effect, and where there is convenience, plant it on a *level surface*, and it will form a very beautiful bed and will be admired by all who see it. When thoroughly rooted, these plants require "daily attention" to watering, and on this success mostly depends. I have often seen plants with the foliage of a brown appearance and the flowers small: these defects, I believe, are caused for the want of more nourishment at the roots. Water cautiously, once a week, with weak liquid manure, which greatly promotes health and vigour both to foliage and blossoms. One-year old plants are destroyed, and a succession is provided by cuttings struck in August, which become well established before winter. The profusion of beautiful flowers amply repays for any attention.

DEUTZIA GRACILIS.

This is certainly one of the loveliest shrubby plants that we possess. It is a native of Japan, and forms a neat-growing little shrub. It is a most profuse bloomer, so much so as to be literally loaded with its racemes of pure white blossoms. The specimen we give, in the accompanying engraving, of its mass of flowers, is a correct representation of its general blooming. It is easy of cultivation—flourishing in the greenhouse, pit-frame, or sitting-room. It is also an admirable plant for forcing, and can be had in bloom throughout winter. In fact, by having plants kept in a cool situation, and introducing some successively into the forcing-house, greenhouse, &c., it may be had in bloom all the year. It ought to be grown by every lover of a really pretty flowering plant, and having the convenience to do so. Plants of it have been

successfully grown in the open ground in Devonshire, but it is only in warm and dry situations it will be likely to do so.

THE GENUS DIPLADENIA.

BY MR. J. R. TANTON.

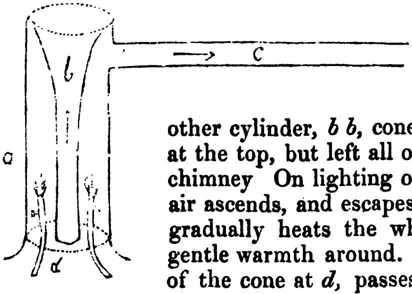
In our climate the character of this tribe of plants renders the adoption of "pot culture" necessary, that they may be "matured" in glazed erections, and kept portable for the greater convenience in their management. They are, notwithstanding, sufficiently hardy to bear with impunity a considerable amount of cold when in a "dormant" state; and to grow this tribe of plants successfully, a comparatively high temperature is decidedly necessary. Much of the success depends upon the marked season of rest, for it is not merely the periodical rest of winter these plants require; they have, like animals, their diurnal repose; therefore night and its accompanying refreshment is as necessary to them as it is to ourselves, for in all Nature the temperature of night falls lower than that of day; therefore at that time the perspiration of plants is stopped, no digestion of food takes place, and instead of decomposing carbonic acid by the extraction of oxygen, they part with carbonic acid, and rob the air of oxygen, thus deteriorating the air at night, but not to the same extent as they purify it during the day; therefore, to meet with the wished-for success, the temperature of night should be kept lower than is usually practised among plant-growers, and a temperature varying from 85 to 90 degrees during the day. When these plants are in "active growth," they also, at this season, require a very humid atmosphere, or the leaves are soon disfigured by the innumerable punctures of a host of insects, which are certain to attack an "unhealthy plant," and thence spread all over those that may be near. This genus can be propagated in two ways:—The first, and most successful, way which I have always practised, is by taking the small tubercles of the roots, and potting them in the same way as young plants, taking care to keep the crown of the tubercle just above the soil, and plunging the pots in a moderate hot-bed, covering them with a hand or bell-glass till they push; after that period the glass may be removed. The second way of propagation is by taking off, as early in the season as it is possible to procure the young wood of sufficient length, pieces having three or four joints, such being the best. They must be cut quite from *their origin* so as to retain a small portion of the parent stem at the base of the cutting, or, as it is technically called, "a heel;" these being squared off with a sharp knife, and the lower leaves removed, the cutting is ready to be inserted in the pot, which should be filled to within an inch of the rim with very sandy peat and silver sand mixed thoroughly, filling up the remaining space with pure sand; in this the cuttings are to be placed at a distance of about an inch apart, and when the pot is filled, dip it carefully in a vessel of water till the water is evenly over the surface of the sand; then draw the pot out quickly, and the passage of the water downwards draws the sand so tightly around the cuttings that the air is quite excluded; a point of the utmost consequence in all kinds of propagation. Cover them with a bell-glass, and plunge the pot to its rim in a steady bottom heat of 80 degrees, taking care to shade them from the strong sun-light, and to supply them moderately with water, till, in three or four weeks, they will have protruded roots sufficient to warrant their removal into separate pots. The treatment through the second stage very closely resembles that of mere cuttings; they should be potted in sandy peat and good decayed leaf mould, adding a sufficient quantity of silver sand to keep the whole porous. They should at this period be kept in a close frame with a temperature of 70 to 75 degrees, maintaining about them a close humid atmosphere; but the liberal application of water, and shading the glass to reduce the heat, rather than by the admission of the external air, as the exhaustion caused by the influx of a dry atmosphere would be more than the plants, in their present delicate condition, could bear. If the first part of the season has been taken advantage of to proceed thus far, the young plants' future progress will be rapid, and by the end of summer they will have thoroughly established themselves, and by a few weeks' exposure to a liberal aëration, will become ripened, and in a fit state for winter. This is perhaps the most trying period in the whole history of the plants; they will require to be kept just cool and dry enough to prevent any attempt at renewed growth, and yet so warm as to be in full vigour, and in a condition to start with energy on the first application of the usual stimulants. The best period for renewing the action will be the middle of January; repot them, and again place them in a brisk heat, about the same as that in which the cuttings were stuck; here they will grow with rapidity, and great care must be taken to prevent the young shoots becoming massed together; for if they are suffered to do so, it will cause a deal of trouble, besides the chance of twisting the shoots, which at this period are very tender. They should, therefore, be looked to every day, letting them ramble where they like till the end of March, when repotting will be again necessary. After this operation, the trellis most suitable for these plants should be placed to them, carefully training the young shoots at equal distances from each other. The trellis I have found most suitable for this tribe of trailers is a "conical-shaped;" it is the best suited for displaying their magnificent flowers. The plants may then be removed to the stove; where bottom heat can again be supplied, with a little more elevated humid atmosphere. About the beginning of June, the plants will begin to show bloom; and their fine flowers will amply repay the cultivator for all attention given.

(*To be continued.*)

ON HEATING A SMALL GREENHOUSE BY GAS.

BY I. J. FLEMING, ESQ.

I HAVE had a stove constructed so as to be heated by gas, which has now been in operation nearly two months, and it answers admirably. The principle is similar to the one described in the "Cabinet," by Mr. Cuthill, but I think improved. On page 86 I give a sketch. I have two burners in it, but I never have occasion to use more than one. They are but common gas-burners, and keep the stove, or rather greenhouse, which is 15 feet square, from 8 to 10 degrees above outward temperature. There is never the least escape of combusted air, and if it should make the air inside a little dry, it is easy to remedy that by putting a pan containing water on the stove. Another important item is, it can be made at the cost of a few shillings, and may burn a great length of time without attention.



I think your readers will be able to understand its construction from the sketch. It is simply a cylinder, *a a*, having another cylinder, *b b*, coned, and firmly united to *a a*, at the top, but left all open at the bottom ; *c* is the chimney On lighting one of the burners the heated air ascends, and escapes through the chimney. It gradually heats the whole apparatus, and casts a gentle warmth around. The air also enters inside of the cone at *d*, passes up, becomes gently heated and goes off, keeping up a continual circulation. This may be easily felt by putting your hand down the inside of the cone, when it will be found that the air is quite warm at the top, and gradually becomes cooler toward the bottom. It perfectly answers the purpose it is intended for, that is, to keep a small greenhouse, in which to grow Geraniums, Fuchsias, Calceolarias, and plants of that description, at a proper temperature, say from 42 to 50 degrees Fahr. In cases where a high temperature is required, I do not think it is suitable ; indeed, I think it would not be possible, except by an immense consumption of gas, to raise the temperature very high ; but in such a case as my own, an amateur wishing to keep his plants over winter in a healthy state, at very little trouble and expense, it is, I think, admirably adapted.

MISCELLANEOUS SECTION.

Petunia (Nierembergia) *intermedia.* —When this most lovely, little, bushy, handsome flowering plant was first introduced into Great Britain, it was held in high esteem. The mismanagement of cultivators has tended to its disparagement ; but when properly treated, it grows freely and blooms profusely from April to November, in the greenhouse or pit-frame. In warm situations, it succeeds well in the open ground, planting it out in May, and repotting at the end of summer. Its medium-sized (Petunia) flowers of crimson, velvet, and yellow colours, render it exceedingly pretty. The following excellent particulars, by Alpha, relative to its successful management, have been given in the *Gardeners' Chronicle ;* and we hope many of our readers will be induced to grow this charming plant :

" Cuttings should be selected from firm pieces of young wood, such as have not begun to produce flowers, planted in light sandy soil, covered with a bell-glass, and placed for a fortnight in a shady part of a cold frame, and then removed where the temperature may be from sixty to seventy degrees ; thus treated, they will be sufficiently rooted for potting off in about a month or five weeks. This petunia is difficult to winter in a soft state, and as some time is required to get up nice plants with well-matured wood, the cuttings should be got in before the end of June ; and where a stock for outdoor planting is required, it will be advisable to grow a few plants to furnish cuttings at the proper season. Pot singly in four-inch pots, as soon as the cuttings are sufficiently rooted, using light rich sandy soil, and place them in a close moist frame until they have made some progress; afterwards, gradually accustom to a free circulation of air, and full exposure to the sun's rays, in order to get the wood well ripened. An airy situation, free from damp, and where the temperature may average about forty degrees, will suit during winter. Those intended for planting out should be hardened during spring, by free exposure to air, on mild days; but they had better be kept growing slowly, and if they can be shifted into five-inch pots, this will assist in keeping them healthy and in having good plants at turning-out time, which will produce immediate effect. A warm sheltered situation, with light rich sandy soil and thorough drainage, is indispensable.

"The plants intended to be grown in pots should be nice compact specimens, in five-inch pots, before winter, and should be induced to start into free growth as early in spring as circumstances will permit. About the middle or end of February will be a proper time for placing the plants in a temperature of from fifty to sixty degrees, keeping them near the glass, and admitting air freely on mild days. As soon as they are moderately rooted, shift into pots one or two sizes larger than those they occupy, according to the vigour of the plants. Very fine healthy specimens may be allowed eight-inch pots, while a size smaller will be more suitable for such as are not so promising. Stop rather closely, and tie out the principal shoots; maintain a moist atmosphere, but water carefully till they appear to have taken to the fresh soil, especially any that were pot bound. Keep them growing as freely during the spring as can be done without inducing weakly growth. Beginners will probably experience considerable difficulty in getting some of their intended specimens to make a good start; and they will act wisely in being prepared with a few extra plants, which will enable them to throw failures away, without inconvenience; for once get this plant into bad health, and it is not easily recovered. If all goes on well, they will be handsome specimens, covered with flowers, by the middle of May, and should be placed in the greenhouse when its usual occupants are placed out of doors. Any of the specimens that have filled their pots well with roots, will be benefited by a shift, and all by occasional waterings with clear weak manure water. When they have done flowering, which, if they are properly treated, will not be until well into the autumn, they may be thrown to the rubbish-heap; as young plants occupy less space during winter, and generally make better specimens than old ones kept after flowering.

"The best soil for the pot culture of this plant is turfy sandy loam and fibrous peat, in about equal proportions, which should be broken up into small pieces, rejecting all that is not full of fibre. To four parts of this, add one of sharp silver-sand, and one of clean small potsherds. A small quantity of thoroughly decayed cow-dung, passed through a fine sieve, to free it from worms, intimately mixed with the compost, will be useful to healthy plants, especially in the final shift."

New Pelargoniums.—Nearly all our large flowered section of show

Pelargoniums have blossoms which have a dark *blotch* or *spot* upon *each* of the two upper petals, the lower ones being without. We have, however, a few of this large flowered class whose blossoms have a dark blotch or spot upon *each* of the *five* petals, as Hoyle's Nonsuch, Ocellatum, and two or three others, which "*five spotted*" have recently been distinguished as "The Large-flowered Fancies;" and in consequence of their very distinctive character from the other flowers, those ought to form a separate section, and be exhibited as such. During the last four our five seasons we have had additions of these five spotted kinds by the seedlings of Mr. Hoyle and Mr. Foster, so that we possess sufficient varieties to form a collection for exhibiting. Mr. Miellez, florist, of Lille, in France, has obtained some of this handsome section of flowers, and gave 250*l*. for twenty varieties. Coloured figures of thirteen he has sent us, and plants of ten of the varieties are offered for sale. They are especially beautiful, and worth a place in every collection. The following are the kinds sent us:

ADELE ODIER.—Upper petals bright crimson, with a light margin, and a large dark blotch. Lower, pale flesh, with a dark spot at the middle.

MADAME DE LAMORICIERE.—A beautiful pink, and each petal has a striking dark spot.

MADAME EUGENE CAVAIGNAC.—A pure white ground; upper petals have a dark blotch, surrounded with fiery crimson, and a white margin. Lower, a scarlet spot at the middle of each.

COLONEL FOISSY.—Bright rose ground; upper petals a large dark blotch, edged with rich crimson. Lower, a large dark spot on each, and the petals beautifully netted with scarlet.

GENERAL EUGENE CAVAIGNAC.—Rosy-lilac ground; upper petals a large dark blotch, surrounded with rich crimson and a light margin. Lower, each having a large dark spot, and slightly streaked.

TRIOMPHE DE LA TOUR.—A rosy-violet ground; upper petals a large dark blotch, margined with deep crimson. Lower, each a dark spot, and the petals beautifully netted with scarlet.

CULTURE OF THE ROSE IN POTS FOR FORCING OR OTHERWISE.—As to the pruning of roses in general, we see them left with new wood from five to ten inches in length, and this is called pruning; what a delusion! When you are about pruning, be not afraid of using your knife; two buds are enough to leave on the last year's wood, as a general rule. If the plant or plants require more to form a neat head, cut accordingly, to make it as handsome as circumstances will admit of; but otherwise never think of leaving more than one or two buds. If the plants intended for forcing have had proper treatment through the summer, they will have been, of course, bedded in a convenient place in old tan or fine ashes; either will do, as the rose does not like the hot rays of the sun to their roots; in the summer, therefore, they should be plunged whether for forcing or otherwise.

ROOT-PRUNING.—When you are about potting the roses, be sure to see well to the root-pruning, which, by some people, is not even thought of, much less done. Cut away all damaged roots, and if a wound is perceptible, or be cankered, cut it clean away; it is far better to have only two clean roots than a dozen bruised ones. If you wish to bud roses for pot culture, let it be done as close as possible to the stock, as it makes a much neater-looking plant; it also does away with that unsightly appearance of so many sticks and ties, which are objectionable.

PROPAGATING.—If you wish to have a good stock of roses, have some pots, No. 32's, in readiness, cleaned and filled with the proper soil suitable for the rose, then select the best sorts you have at hand, take care they are good *free* bloomers, then insert in each pot six cuttings, one joint under-ground, two above, and place them in a cool situation, plunged to the rim, and attend to the watering and keeping them clean. This operation ought to take place in the early part of October.

SOIL.—The best suited for the rose is good loam, two-thirds, and the other in equal parts of well decomposed dung and sharp grit; the latter may appear to some people useless, but I find it a great acquisition; it causes a *quicker* growth, and much promotes the certain rooting of cuttings.

The following twenty-two sorts are the best for forcing:—La Reine, Lee's Perpetual, Geant des Batáillies, Duchess of Sutherland, Madam Laffy, Mrs. Elliott, Basonne Prevost, Louis Bonaparte, Comte de Paris, and Dr. Marx. These require but little heat.

TEA ROSES, &c.—Devaniensis, Eliza Sauvage, Saffrone, Bougere, Blush Odorata, Goubalt, Adam, and Smith's Yellow Noisette. These, like the above, require but little heat.

Moss, Cabbage, Provence, and Unique Roses are the best old sorts for forcing. All roses do best plunged in a gentle tan-bed, with a gentle top heat, and watered with manure water alternately.—H. STILLWELL.

PRICKLING OUT ANNUALS ON TURF.—Last spring you gave instructions about this process, as also to sow seeds upon turfs. I tried both and succeeded most satisfactory. I procured a quantity of good loamy turfs one inch thick, laid them in a frame of mild peat-grass, side down, sprinkled over the surface with *fine* sifted soil, and sowed a quantity of my best annuals, and shaded from sun, keeping the lights closed till the plants appeared; I then gave air freely, and as soon as I dare venture safely, I took out the turfs, having one turf sown with one kind of flower, and I carefully cut them into very small portions, and planted them out in my flower beds and borders. They had no check, not a plant perished, and such a show of fine annuals I never saw before. With my German asters, stocks, zimias, portutaccas, &c., I sowed the seed on turfs; but as soon as big enough to prick out, I did so with them but upon turfs, and gradually inured them to the open air. At the planting-out time I cut the turfs, so as to leave one or two plants on each bit, and thus put them in the beds and borders. By this process not one either flagged or failed. I had not to shade them, or be mortified by seeing them flag or shrivel up, as I often previously had by the old mode of raising on beds, or in pots, and at planting-time, to put them out with the soil separated from the roots.—A. FLORIST.

CAMPANULA VIDALII.—Observing in last year's volume of this Magazine that this beautiful plant does not bloom till a second season, in May I bought a plant, which had been raised the previous year, and it soon grew to a nice bush, having eight branches; I encouraged it, by having it in a very rich soil, and I had a long spike of flowers on each shoot. The large waxy-white blossoms, of handsome form, rendered the plant one of the most lovely plants I ever saw. It continued to bloom till December. It does well, I am informed, either planted out in a warm place in the open ground about the first week in May, or (as I kept mine), in the greenhouse. It merits a place in both situations, and in every garden. I am glad to see it can be had, too, at a trifling cost.—JOHN BOWYER, St. John's-wood-road.

PROPAGATION OF INDIAN AZALEAS.—By the following mode of treatment I have propagated this beautiful tribe of greenhouse plants as freely as Dahlias or Verbenas are. As soon as the new shoots are from two to three inches long, I cut them off exactly at the place where they started from, at this last pushing, that is, the *union point* of the last season and present season's wood. I dress off the lower half of the leaves, and having a pot half filled with cracks, bits of turfy peat over them, upon which is two inches deep of silver sand. The cuttings are stuck in, watered, and after drying for an hour or two, the pots are plunged in a moderate warm hot-bed; a bell-glass placed over, and shaded from mid-day sun. If too much moisture inside the glass, it is occasionally wiped off. In about three weeks, or a month, every cutting is usually rooted; but a little air is admitted for a week, or ten days, by tilting the glass on one side, and then each cutting is potted off, singly kept in the frame for a week or two, and gradually inured by more air. One-year old plants become wide bushes, and bloom the second season. To make them bushy I stop the leading shoot when it is about six inches high, and side shoots are produced freely.

A LONDON GROWER.

BUSHY BALSAMS.—To have Balsams in bloom for a long period, sow twice. The first in March, and the plants will bloom fine from the middle of May to the beginning of August. Sow again the first week in May, and the plants will bloom from the end of July to November. Till the plants are about six inches high keep them in a hot-bed frame of good heat, from 65 to 75 degrees. After this give them air liberally, to keep them stiff. Clip off *all the flowers*, till the plants have formed a due proportion of branches. Till the plant is formed nearly the size required, branches are the *desired object;* after that *flowers* must be, and a due proportion must be retained. When the leading shoot has risen as high as desired, pinch off the top; this will encourage the branches, and contribute to form a bush. They flourish admirably in equal parts of good turfy loam, which has been heaped, turned, &c., for a year, well rotted cow-dung, and vegetable, or leaf mould, with a free drainage. Give manure water once or twice every week, when the plants have got into a rapid state of growth. Plants thus treated will furnish amazing fine flowers, and form perfect bushes of beauty.

A PRACTITIONER.

FLORAL OPERATIONS FOR THE MONTH

SEE that the proper quantities of plants, seeds, &c., are in due course of preparation for the summer display. Plans of flower-gardens, &c., should be sketched on paper, and the appropriate regulations for future arrangement and plans required be put down; this attention is of much assistance.

IN THE FLOWER-GARDEN.—Last month was the best time for grafting shrubs, as Thorns, Limes, &c., but late-growing kinds may still be done, as Rhododendrons, &c.

Annuals, hardy—such as Clarkia, Nemophila, Larkspur, &c., may still be sown in the open bed. Seeds of *Biennials*, too, should now be sown in beds—such as Hollyhocks, Sweet Williams, Scabious, Canterbury Bells, &c. Also seeds of *Perennials*, as Phloxes, Campanulas, &c. Finish planting out Biennials and Perennials, and dividing large patches of border plants. Hollyhocks must be put in immediately; water them as soon as planted. Newly-budded trees, that is those budded last season, should be looked over, and if any portion of the stock be pushing shoots, they must be rubbed off, so that the entire strength should go to the new shoot engrafted.

Auriculas and Polyanthuses.—Give air freely on all suitable occasions, to prevent the flower-stems being drawn up weakly. The blossoms will soon be opening; no water must be allowed to fall upon them, and they must be shaded from hot sun.

Pinks.—If beds of them are required, make them immediately. A loamy soil, made of turfs a few inches thick, and well rotted, with an equal portion of old decayed cow-dung, is admirably adapted for their growth. It should be nine inches deep, and have a good drainage below. The plants must be removed with as much of the ball of soil as possible, and be planted six inches apart. High raised beds are not beneficial, except in low, wet situations. Autumn planted beds should be top-dressed with a little rich soil, and the plants be made firm in their places; a few small sticks stuck around amongst the shoots will prevent twisting off.

Ranunculuses and Anemonies.—When the plants are risen an inch or two high, have the soil pressed closely around them with the hands, stopping up any holes made by worms, &c. A top-dressing, too, of rich compost, free from wire-worm is very beneficial. Often stir up the soil between the rows. Showers of rain are very beneficial for their growth; if none fall, water with *soft* water in the morning; well-water is injurious. Weak manure-water occasionally poured between the plants contribute to vigour.

Tulips.—Stir the surface of the bed an inch deep. Protect from *hail*, FROST, and *strong wind.* Keep the soil firm around the stem, and mind that water does not lodge in the heart of the plant where the infant flower is, or it will be damaged; gently open the leaves to admit the water to drain off.

Hyacinths should be protected from frost, sun, and wind; secure by tying to proper supports. Stir up the surface soil.

Pansies in beds must have the soil pressed around the plants, and a top-dressing of rich soil an inch or two thick will be beneficial. New beds of them should also be planted. A few sticks among the shoots prevent them being twisted.

Chrysanthemums.—Strike cuttings, or pot off rooted suckers.

Roses.—Now plant out the tender China and Tea, or Bourbons, &c.

IN THE FORCING-FRAME.—Balsams, Cockscombs, Globe Amaranthuses, &c., that require potting off, or repotting, should be duly attended to; also Thunbergias, Browallias, Lobelias, Brachycoma, &c. Seedling Fuchsias, Verbenas, Petunias, &c., should be potted off singly. Dahlias, too, should be placed so as not to be drawn up weakly. Achimenes must be potted off singly. (See articles on Culture in previous Numbers.) Tender Annuals, as Stocks, Zinnias, &c., should be placed in a cool frame or pit, to prevent them being drawn up weakly. Where it is practicable to pick out, such as Stocks, Asters, &c., upon beds, and protect with frames, it should be done; it gives a robust growth to them. Cuttings of most greenhouse plants may now be put off. Young plants of Fuchsias, now procured, if six inches high, will make fine ones for shows in summer.

IN THE GREENHOUSE.—Admit all the air possible. Repot Lobelias, Tigridias, Geraniums, Verbenas, and other simliar plants for beds. All other kinds of plants, requiring repotting should now be done. Such as are straggling, &c., should be cut in, to render them bushy. *Pelargoniums* will require particular attention in tying up, watering, and fumigating (if green fly be perceived); occasionally give a little manure-water. (See articles on Culture in previous volume.) Camellias, when done blooming, examine the roots, and, if necessary, repot (see articles upon, for soil, &c.); then place them in a warm part of the greenhouse or forcing-house, giving due attention to watering, &c., till the wood is firm and flower-buds are set; they may then be removed to a cool pit, so as to be gradually hardened by more air, &c. Japan Lilies flourish best in peat soil and sand, Cinerarias require particular attention; pot or repot young seedlings, and fumigate if green fly appear.

A careful inspection of the greenhouse plants should be made, to see which require repotting, and do it at once, not waiting till some general performance. Such Azaleas as have done blooming must directly be repotted, and their growth afresh be gently promoted in a higher temperature for a short time.

Ericas.—Any requiring repotting should be done directly; avoid too large pots with the less vigorous growers, but free growers will require room to extend in proportion. Give air freely, but avoid draughts, especially from east and north. Calceolarias require repotting to have a vigorous bloom.

BRIEF REMARKS.

HORTICULTURAL SOCIETY MEETING, *March* 15.—The objects of exhibition specially invited on this occasion were hybrid Rhododendrons, forced Strawberries, and salads; but no Rhododendrons or Strawberries came, and only one salad was produced, in the shape of a very fine collection of such vegetables from Mr. Burns, gardener to Lord Stanhope, at Chevening. It consisted of blanched Chicory (the entire-leaved sort), curled and Batavian Endive, Bath Cos and hardy green Lettuce; American, Normandy, Golden, Curled, and Water Cresses; Italian Corn Salad, a much better kind than the common sort; white Mustard, common garden Sorrel, Burnet, Red Beet, Chervil, Cole's Dwarf Red Celery in admirable condition, being sound and solid, and beautifully blanched; Tarragon, early frame Radishes, Chives, and Tripoli Onions. A Banksian Medal was awarded. A similar award was likewise made to Mr. Bailey, Shardeloes, for a Prickly Cayenne Pine-apple, weighing 5lbs. 8oz. It was remarked, that this variety ought to be more commonly cultivated than it is, possessing, as it does, all the good qualities of an Enville, without any of its bad ones. Mr. Butcher, gardener to W. Leaf, Esq., of Streatham, sent two bunches of Muscat, of Alexandria, Grapes, a little shrivelled, but still in good preservation, and a bunch of Black Barbarossa, which, although of last year's produce, was plump and fresh as the best new Grapes could possibly be. A Banksian Medal was awarded it. Of plants, Messrs. Weeks and Co., of Chelsea, sent Puya Longifolia, for which a Certificate of Merit was awarded, and cut flowers of Nymphæa Cærulea and Dentata. The Puya was fastened on a block of wood like an Orchid, a condition in which its numerous long scarlet flowers produced a brilliant display; and it was mentioned, that, owing to the hardness of their skin, they kept long in perfection. It is one of those high-coloured Pitcairnia-like plants which inhabit tropical America, and which are found to be so handsome in our stoves at a season when such things are most wanted. Among miscellaneous subjects were bark and wood of Fitz-Roya Patagonica, from Messrs. Standish and Noble, of Bagshot. The wood bore considerable resemblance to Cedar, being red, smooth, and beautiful; the bark was thick and spongy, and appeared destined by Nature to protect the tree from cold, furnishing additional proof that it will turn out to be hardy in this country, which it promises to be. A collection of varieties of Indian Corn was exhibited by G. T. Davy, Esq., of Sussex-square, Hyde-park. They were from Cusco, and consisted of very fine large kinds little known in this country, but unfortunately too tender for our climate. It was hinted, however, that they might be found worth a trial in some of the Colonies, whose summers are longer and warmer than our own. It was stated that this Cusco corn was quite different from the Indian corn of North America. An imported cone of the New Holland Araucaria Bidwillii was contributed by Lieut.-Colonel Sir Thomas Mitchell. It is the Bunya-Bunya of the natives, who feed on its large bean-like seeds. From the Garden of the Society came Oncidium Barbatum, the fine variety of Dendrobium Nobile, called Blandyanum, the hardy blue-flowered Californian Ceanothus Rigidus, the true Acacia Celastrifolia, a useful species for pot culture, two Heaths and Epacrises, the Swan River shrub Trymalium Odoratissimum, Cytisus Racemosus, and Polygala Dalmaisiana. The garden also supplied the following varieties of Salad vegetables; viz., Lettuces, Scarole à Fleur Blanche, Chicorée fine d'Eté, and Sauvage Amèliorée Panachée, Mustard; American, Normandy, and other Cress; Celeri Gros Violet de Tours, Early White Winter Radish, Deptford Onion, Burnet, common garden Sorrel, broad-leaved ditto, French ditto, and Oseille de Belleville, by far the best sort; also Chervil, Atkins' Crimson and Sutton's fine Dark Red Beet, Mache Rondo and M. d'Italie; the latter decidedly the king of Corn Salads. Cuttings of the following fruit-trees were distributed; viz., *Dunmore Plum*, a variety raised by the late Mr. Knight, and described in the Society's Transactions. It is a good-sized oval fruit—yellow, although it sprang from a seed of the Purple Impératrice and Pollen of Coe's Golden Drop. The flesh adheres to the stone, is yellowish, extremely rich and sugary, so much so, that it shrivels and dries like a preserved Prune. The tree is hardy, and bears well as a standard, ripening later than Coe's Golden Drop. It is not much in cultivation, but is highly approved of by all who have fruited it. *Beadnell's Seedling Pear.*—This is a middle-sized sort, so melting and juicy, that it is scarcely possible for any Pear to be more so. It ripens in the end of September or beginning of October. The tree is vigorous and bears very abundantly. *Nouveau Poiteau* and *Colmar tardif Pears.*—These were received from M. Van Houtte as new and good sorts; but as they have not yet fruited in the garden, nothing further could be said respecting them.—*Gardeners' Chronicle.*

CINERARIAS, BULBS, &c.—A subscriber to the "Cabinet" wishes to be informed as to the cultivation of Cinerarias. Seedlings are so apt to be worthless, that (except in large quantities) it is hardly worth while growing them. He wishes to know whether cuttings or divisions of the root *grow well;* and, in fact, what is the best way of preserving and propagating the good sorts after they have bloomed in the greenhouse in the months of March and April. He has also two circular beds (eight feet in diameter) filled with roots for spring, blooming Crocus, Grape Hyacinths, and Turban Ranunculus; he would like to be advised what to do with the beds after their beauty has past. He believes all those bulbs and tubers to thrive better by being left all the year round with soil; and he suggests if some creeper might not be used to cover a low wire frame, so as to screen the beds without there being any need to disturb them. If this might be, what creeper could be so used? He suggests a horizontal wire, forming a table two feet from the ground, or a low cone.

SPOT ON PELARGONIUM LEAVES.—A young gardener informs us that his collection of these plants has been much blemished by this pest. When your plants have done blooming in summer, you head them down, as it is termed. A week or ten days *previous* lay the pots on their sides, withhold water, then cut back duly and place the plants in a cold frame, where you can put the sashes on to prevent rain falling upon them. Water the bulbs once; then on seeing the buds pushing, increase it. Thin away extra shoots, keep the leaves dry, and house the plants early in autumn, protecting them from wet and *cold, damp winds*, and you will escape the spot you complain about. If, on cutting in the plants, any shoot should bleed, dust the part with a little lime in a powdery state; that will stop it.

CANTUA DEPENDENS.—T. I., you state, "I cannot make this plant bloom, although it has grown very freely during the last summer." If the shoots have become somewhat *woody*, being *well ripened* last season, your plant will, no doubt, bloom well the coming season. Young struck plants do not usually bloom the year they are raised. The previous year's wood supplies the blooming shoots.

TO BLOOM CHRYSANTHEMUMS EARLY.—G. Bailey asks, "Can these plants be cultivated so as to bloom earlier in the summer?" We have already noticed that one of our readers had struck cuttings in autumn, and kept the plants growing in an airy part of a light greenhouse, and they bloomed fine in March and April. No doubt, by keeping a portion of these autumn-struck plants in a cooler place than the greenhouse,—say, frame or pit, during winter, but just growing,—the plants could be brought to bloom in May or June, and by pursuing proper means at any other period of the year.

INK FOR ZINC LABELS. (W. S. W.)—Reduce equal parts of verdigris and sal-ammoniac to powder, add one-fourth part of lamp-black, and five parts of water; mix the composition well in a stone mortar; add the water gradually, and take care to shake the composition before it is used.

GARDENIA STANLEYANA. (W. W.)—The plant is a native of Sierra Leone, and requires to be in a stove; also to have a *moist* temperature. It must be syringed overhead morning and afternoon, a short time before sunset, during its season of growth, but not when in bloom. After blooming it must have less water at the roots, and be kept in a cooler situation, and have a rest till the beginning of February, when it must be repotted in equal parts of one-year-old turfy loam, sandy peat, and leaf-mould, with a liberal drainage, and be placed in a higher temperature. It always flourishes best when the *roots* are kept warm by being plunged in a bark bed, or standing upon a warm (not hot) flue. So circumstanced, we have uniformly seen it bloom profusely.

CAPE GOOSEBERRY (Physalis edulis).—It is not generally known that the fruit of the Cape Gooseberry, a very old inhabitant of our greenhouses, makes an excellent open tart or preserve, but such I find to be the case. The following hints on its cultivation may be useful to those who may feel inclined to give it a trial:

"It may be raised from seeds very early in the year; but I find it far preferable to raise a supply of plants from cuttings in January, as they produce fruit which is much finer, and ripens much earlier in the summer than that borne on plants raised from seeds. The plants should be gradually hardened in March, and should be turned out subsequently under a south wall, in a favourable soil and position. They will perfect their fruit by the end of July, and will go on bearing abundant crops until the end of October, particularly if the superfluous shoots and leaves are occasionally cut away, in order to allow the rays of the sun to reach the fruit."—*Rev. Thomas Rooper, Wick Hill, Brighton.—Horticultural Society's Journal.*

Gas-Heating.—I have lately seen another gas stove at work in a greenhouse belonging to Mr. Lightfoot, of Camberwell. His hot-chamber or stove is in the inside of the house, with a gutter to admit air to the gas-jets from without. The door of this stove is very small, and shuts so closely, that no escape of gas nor any air can get into the house, which is 12 feet long by 3 feet wide, and 8 feet high, with glass on all sides. The thermometer on the mornings of the severest frosts has never been under 40°. The plants look remarkably healthy, and are all in a growing state; the joints of the pipes are cemented with white lead, and there is no bad smell whatever. The pipe passes all round the house, and runs out into the open air. Any one can see Mr. Lightfoot's house, and can judge for himself; the expense he considers nothing at all, compared with the nuisance of fire-lighting and other inconveniences attending ordinary modes of heating.—*James Cuthill, Camberwell.—Gardeners' Chronicle.*

Mr. M'Glashen's Planting-Machine.—In our February Number we inserted some particulars of this machine in connection with some operations which had taken place in Scotland. On the second of March the apparatus was tested, as to its capability, in the Garden of the Horticultural Society at Chiswick.

The object of the Inventor was to construct a machine which could be readily fixed, and be capable of lifting small plants, shrubs, or trees even of twenty yards high, and to remove them in an upright position: also to retain the soil undisturbed within the apparatus. The tree, which was moved on this occasion was a black Italian poplar, fifty-five feet high, and in about half an hour it was lifted out of the ground in an upright position, and so retained for some time. It was in the afterpart of the day drawn to a hole at a short distance, and replanted.

The principle of the plan was admired by all who saw the operations, and they were generally satisfied with the result. It is not often trees of such a size will be moved, but it is proved they can readily be done. The Inventor had similar constructed machines of small sizes, to show that it can be applied to remove even a small flower-border plant with perfect safety. We intend to give a figure of the apparatus, and therefore defer giving additional descriptions to that occasion. With all trees that have abundance of fibrous roots, even up to the bole, or crown of roots, the apparatus is admirably adapted to its purpose; and not a tree will fail if after treatment is duly attended to. There are many kinds of trees and shrubs that, after having attained a large size, have but few if any fibrous roots within several yards of the bole; and the fibrous roots being remote, beyond where the present large machine would compass,—all such roots, so essential to the re-establishment of the plant, would be cut off. It would, with such trees or shrubs, be best to commence at a proper distance from the tree to clear away the soil, so that the fibrous roots be retained, and thus freeing them up to where the apparatus extended to them it might be fixed so as to retain the roots to the full extent, by having spaces between the knives through which the roots would be placed; the entire of soil then might be removed within the machine, and any plant might be removed with a certainty of growing.

New Phlox. Dubus's Phlox Criterion.—Many of our readers are aware that P. Depressa was an hybrid from P. Drummondi, impregnated by one of the perennial Phloxes. The P. Criterion is an hybrid from P. Depressa, impregnated by one of the common kinds. It is a vigorous grower, of medium height, producing large heads of flowers, each blossom being an inch across, and of excellent form. Each petal is of a beautiful rosy-lilac, with a very distinct white margin. It blooms all the summer season. Plants will be ready for sale the first week in May, by M. Meilleiz. It merits a place in every flower-garden.

Excellent Compost for Roses.—The following compost I have used for roses, both grown in pots and the open ground, with astonishing results. From a rich meadow I obtained some strong loamy turf, four inches thick. I had it laid into a heap, like a dung-bed, three feet thick; it was turned over four times, and chopped during the first year; I then added an equal quantity of *old* rotten dung, and mixed them up well, and used it as required.—*Senex.*

Japan Lilies.—As soon as the bulbs show signs of pushing, generally in March, pot them. Carefully loosing away the old soil and decayed roots, and pot in equal parts of turfy loam a year old, turfy peat, and well rotted cow-dung, leaf-mould and sand composing the other part. Have a liberal drainage of broken pot, upon which lay a portion of moss and lumps of charcoal. Cover the bulb four inches, and as the stem pushes, side rootlets will be produced; then fix a neat wire rim, five or six inches deep, around the top of the pot, and fill it as high as the rootlets push, with chopped pieces of turfy loam and turfy peat. This attention greatly promotes the vigour of their growth and bloom. Do not give much water till the stem appears above the soil, then increase in proportion to the growth. Give manure water once a week, and soft water on all other occasions.—*A Nobleman's Flower Gardener.*

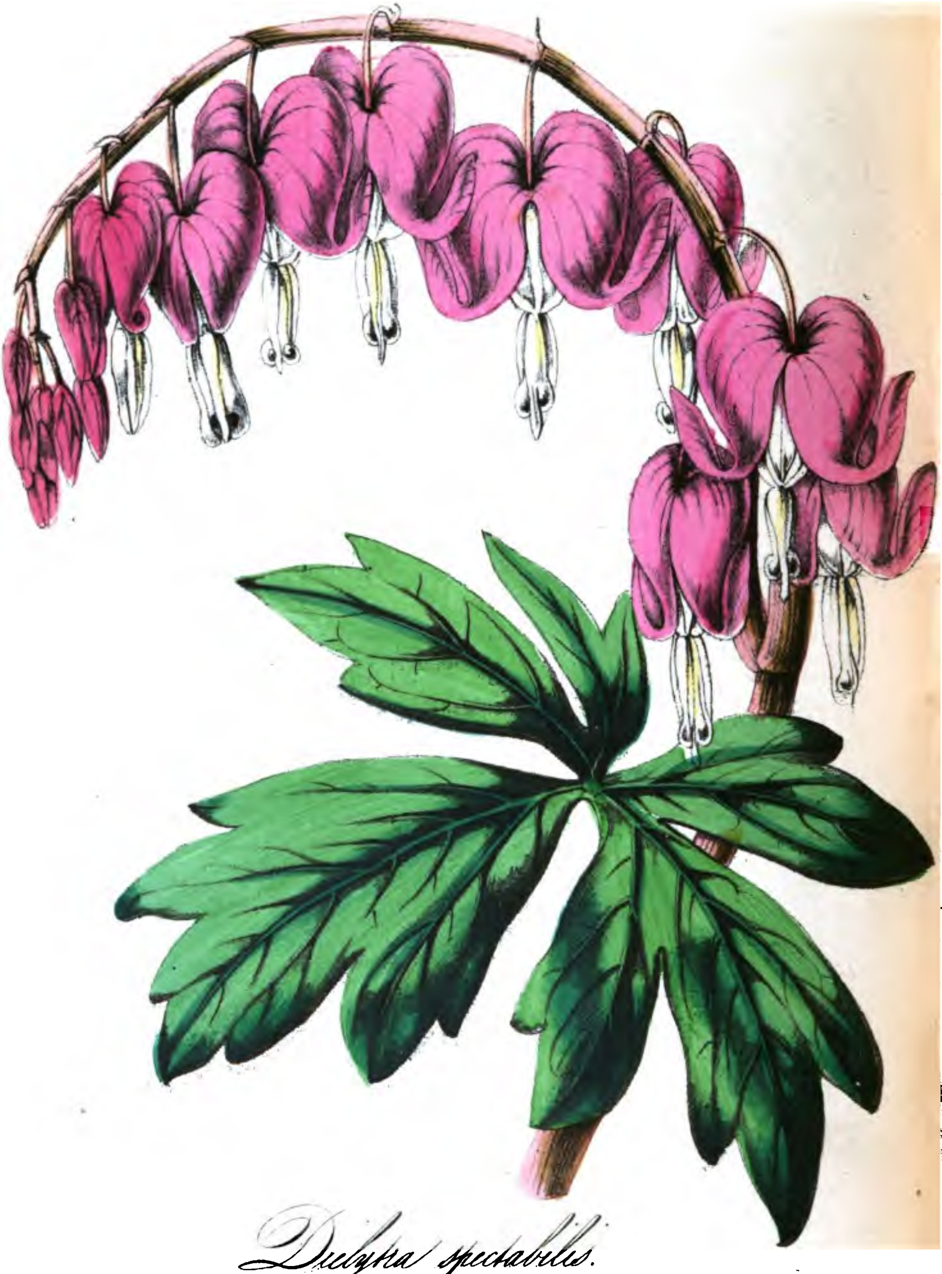
CHINESE PRIMROSE.—An immense number of these beautiful flowering plants are brought to Covent-garden during the winter and spring months. A marked improvement in blooming them is very apparent, especially the single flowered. The coloured ones are now of rich bright colours, some being quite a rich crimson, with a yellow eye. The colours are improved, it is said, by cultivation only.

In the following compost, with due attention, what would have pale rosy-lilac flowers in common soil will produce flowers of a bright rosy-red or crimson, and greatly improved in size. To equal parts of old decomposed *cow-dung*, and well rotted *vegetable mould*, add a liberal sprinkling of sand, and a free drainage. In this compost, both the single and double-flowered bloom most admirably. The refuse from a vegetable or flower-garden supplies the vegetable mould.

TO INDUCE THE MITRARIA COCCINEA, STREPTOCARPUS RHEXII, AND ÆSCHYNANTHUS LOBBIANUS TO BLOOM.—If some one of your numerous readers give me a little advice as to the best manner of cultivating Mitraria Coccinea, I should be greatly obliged. I have looked for some account of it in every number of your Cabinet for some time past, without success; also on Streptocarpus Rhexii, and Æschynanthus Lobbianus. These plants grow amazingly, but do not flower. If you would kindly assist me with your advice in an early Number, it would greatly oblige one of your constant readers for some years.—*M. R. M., Bridgwater.*

P.S. It would also be a favour if particulars of the treatment of Cereus grandiflorus, to cause it to bloom, were also given.

CYCLAMENS.—Those who wish to increase their stock of Cyclamens should look over them now when they are in flower, and select those for the purpose which are sweet-scented, and otherwise superior kinds. These should be placed on a shelf in the greenhouse, where they can have plenty of air; they will there produce abundance of seed, which, when sufficiently ripe, should be sown as soon as it is gathered in seed-pots or pans, well drained, and filled with equal parts of good loam, sandy peat, and leaf-mould, or well decomposed dung. The seed should be distributed thinly and evenly over the pan, slightly covered with the mould, and kept moderately damp. Early in the autumn the plants will begin to show themselves; let them remain in the seed-pans until the beginning of May following, when a bed should be prepared for their reception, where there are sufficient bulbs to fill it, in the following manner:—Take a layer of well rotted dung, three or four inches deep, the size the bed is intended to be; upon this place, well incorporated together, equal parts of good loam, sandy peat, and leaf-mould, sufficient to make a bed at least nine inches deep. Now turn the plants out of the seed-pans, carefully preserving the points of the roots; for, if the latter are injured or cut off, the plant will make no progress until it has thrown out more roots from the base of the bulb. Then let them be planted from four to six inches apart, according to the size of the bulb. Let them be protected by a frame or hand-lights, give plenty of air, and, as the warm weather advances, take the lights away altogether. They will then need no other care than weeding or watering as may be required. Early in September they should be taken up carefully, and potted into pots varying according to the size of the plants; the smaller ones in 3-inch pots, the larger ones in 5-inch pots; put them in a close frame for about a week, giving a little air occasionally, until they have taken hold of the mould, which should be similar in quality to that mentioned above, with the addition of one-third well decomposed dung, and a little silver sand. At the general time of housing greenhouse plants, give them a good airy position in the greenhouse, and in the following spring most of them will produce a tolerably good show of flowers. Those who have not the convenience of a greenhouse may keep them in a cold frame during the winter months, removing them when showing flower into the drawing-room or parlour as they are wanted. Of course they will not bloom so early as those in the greenhouse; but it is better to have them late than not at all. When done flowering, place them in a cold frame, and pay as much attention to their wants as at any other season of the year; by this means the foliage continues vigorous and healthy. In May turn them out in a sheltered spot, and protect them from the mid-day sun. In September the mould should be shaken from them, any dead roots cut away, and the live ones carefully preserved; then repot into a size larger pot, and place them in their old position—the shelf or the frame. As the season advances, a portion of them may be placed in a warm house or the stove. These will flower much earlier than the rest, thereby prolonging the season of bloom for several months.—A. K.—*Gardeners' Chronicle.*



Dielytra spectabilis.

FLORICULTURAL CABINET.

MAY, 1853.

> "Ye lovely flowers of lowly birth,
> Embroiderers of the carpet earth,
> That stud the velvet sod;
> Open to Spring's refreshing air,
> In sweetest smiling bloom declare
> **Your Maker and your God!**"

ILLUSTRATIONS.

DIELYTRA SPECTABILIS.—THE MOUTAN DIELYTRA.

IN previous Volumes we have noticed this truly handsome herbaceous plant; but its being increasingly admired each successive season, as improvements in its cultivation occurs, we are induced to give a figure of it, not only to perpetuate it in our Magazine, but also to allure our readers universally to possess one or more plants, which is adapted to ornament the stove, greenhouse, conservatory, dwelling-room, or flower-garden—growing and blooming freely in each situation.

It is really surprising that this charming flowering plant was not much earlier introduced into our own gardens, as mention is made of its beauty nearly one hundred years ago, by Karamschew, Linnæus, Gmelin, and others. Linnæus, in his Species Plantarum, gives *Siberia* as its native country, whilst others state, Siberia or Tartary. It appears, however, to have been known only in "Northern China or the borders of Tartary and China," and not to be a denizen of any part of the Russian empire. Mr. Fortune, however, on his mission to China, states, he first saw it in the artificial rocks in the Grotto-garden, Island of Chusan, growing along with the very beautiful flowering shrub, Weigelia rosea. He adds, "It is one of the plants of which the Chinese mandarins are so fond and that they cultivate with so much pride in all their gardens." He forwarded plants of it to the Horticultural Society, from whence it soon spread in this country. At that period it was grown in our stoves, subsequently in the greenhouse, and latterly in the open bed of the flower-garden, where it grows and blooms most admirably, and proves to be quite hardy. We have seen some noble specimens growing out-doors, but not equal to the specimen which is described in the following communication which a gentleman forwarded to us last year:

"The plant I alluded to in my recent letter to you, was planted the year before last, in the garden of a gentleman at Lexden-heath, near Colchester, and was then only a few inches high. During that and the last year it grew and flourished wonderfully, but this year it reached a size and form that very far surpasses anything of the kind that I ever heard of. In the middle of August it became necessary to cut it down, on account of its enormous size, to prevent it from destroying some neighbouring Roses, and it then measured upwards of 30 feet in circumference, and 5 feet in height. I have never had an opportunity of examining it closely, but I have constantly seen and admired it from the road in passing by, and I have repeatedly heard from one who has been inside the garden, that what I have here stated is entirely correct. I have also been told that between April and August it frequently bore upwards of 200 perfect spikes of flowers at once, and that it had not a single stem or branch broken by the wind, although in a very bleak and exposed situation. I should add, that it is planted in the richest artificial soil that can be made, and that in winter it is left wholly unprotected. In the flower-garden of the same gentleman there are also extraordinary specimens of the Myoporum tenuifolium, the two sorts of Vincas, and of the new Cantua dependans. I have not seen them myself, but I am informed by good authority that they are of a size and form far beyond anything ever attained in any of our best-managed greenhouses, owing entirely, I believe, to the soil which is given to them."

We find it thrive admirably in our own garden, and is not injured the least during winter, springing up vigorously each succeeding spring. It is one of the prettiest ornaments, too, when grown in pots, either for the greenhouse, sitting-room, or entrance-hall. It is of the easiest culture; in a rich loam and sandy peat, well drained, it succeeds well. It is readily increased by cuttings, in the same manner as is done with Dahlias, also by division of the thick, fleshy roots, securing an eye to each.

NOTES ON NEW OR RARE PLANTS.

Cereus MacDonaldiæ.—Mrs. MacDonald's Night Flowering Cereus.—The plant was received at the Royal Gardens of Kew, from Honduras, sent by Mrs. General Mac Donald. It was planted against the back wall of the cactus-house, and it trailed against the wall, where it has bloomed. A casual observer might have passed the plant, and supposed it to be an unusually large-flowered "Night-blowing Cereus," but on inspection, the stems and branches, flower buds, patent petals, and above all the great size of the flowers, fourteen inches across, and fourteen inches long, all indicate a most distinct (magnificent) species. So rapid is the growth of the plant, that the cutting sent from Honduras soon covered the back wall of a rather lofty greenhouse.

The buds and the flowers are so large, and so showy, that they seem as if they could not belong to such meagre, half-starved leafless branches.

The tube is green, tinged with brown. At night the flower expands. The calyx sepals spread and reflex, *red* at the outer side, and *orange* inside. The petals are white, with a slight primrose tinge, and form a broadish cup inside the deep-coloured sepals. The numerous yellow stamens form a circle around the yellow-rayed style. It is a superb species, well worth cultivating in every suitable greenhouse. (Figured in the *Botanical Magazine*, 4707.)

DENDROBIUM HETEROCARPUM. *The various-fruited.*—A stove orchid from Assam, and was bloomed in the Royal Gardens of Kew. Sepals and petals of a cream colour. Lip disc beautifully velvety, outside cream colour, but inside of a golden yellow, streaked and veined with blood-red lines. The blossoms are fragrant, each is three inches across. (Figured in *Botanical Magazine*, 4708.)

CROSSANDRA FLAVA. *Yellow-flowered.*—Mr. Whitfield discovered this species growing in the fissures of rocks upon the Sugar-loaf Mountain in Sierra Leone, Africa. The plant is shrubby, but does not rise more than six to eight inches above the surface of the ground, and is unbranched. The leaves are nine inches, or more, long. The flowers are produced in a large four-sided spike, of a bright yellow, five petalled, each blossom an inch across, having much the appearance of the blossom of the Jasminum revolutum. (Figured in *Botanical Magazine*, 4710.)

PITCAIRNIA ECHINATA; ECHINATED FLOWERED.—The plant is very like one of the pine-apple plants. The flowering stem rises from centre, long, and has a few leaves upon it, which are gradually shorter towards the top. The flowers are pendant, two inches long, with a long footstalk, and are produced in a long spike, calyx sepals are red at the base, and the rest part of a rich yellow. Petals cream-coloured, half as long again as the sepals. It is a very interesting and pretty flowering species. It is supposed to be a native of Mexico, and will require to be either in the stove, or a warm greenhouse. (Figured in *Botanical Magazine*, 4709.)

AQUILEGIA FORMOSA.—This very pretty blooming plant is figured in Mr. Van Houtte's *Flore.* It is a hardy herbaceous, tallish-growing plant. The sepals are, in an early stage, purple, but when the flowers are fully grown they are of a rich orange-red colour, with the petal-like limbs of a pretty yellow. It is very handsome, and merits a place in every flower-garden.

CENTROPOGON TOVARENSIS.—Mr. Linden, of Brussels, obtained this very handsome species from Venezuela, which has bloomed in his nursery establishment. It belongs to the order of Lobeliaceæ, its flowers being produced in terminal racemous heads, similar to Justicia curnea, each head having from twelve to twenty blossoms, and the tube of each flower being about two inches long, of a rich carmine red. It is a valuable acquisition to the stove or greenhouse. It flourishes during summer in the flower-garden. It requires a rich soil, and will bloom throughout summer, and in the stove during winter too.—*Figured in Van Houtte's Flore*, p. 802.

COLEUS BLUMEII.—"Synonym Plectranthus concolor pictus," originally from Java. It is one of the soft wooded plants, similar to the Plectranthus. The leaves are large-ovate acuminate, of a lively green, having on the centre portion a large stain of crimson velvet, producing a pretty effect. The flowers are produced in whorls, and form long terminal spikes. The blossoms are small, of sage-like form, three parts of an inch long, the upper portion being white, and the lower part is of a lilac-blue colour. It is a very pretty plant, deserving a place in every greenhouse. It also does well in the open border during summer, being turned out towards the end of May.—*Figured in Van Houtte's Flore*, p. 801.

WEIGELIA METELER KAMPII (or W. amabilis).—This is said to be one of the finest shrubs ever introduced from Japan. The foliage is very fine, and the flowers are produced in large terminal heads of very rich rose-colour. We understand Mr. Van Houtte gave one hundred and five pounds for the plant.

APHELANDRA MICANS.—The flowers are produced in fine heads, superior to A. aurantiaca, and the foliage is much finer. It is a valuable acquisition to the stove, and blooms freely in winter too.

ARDISEA CRENULATA FRUCTO ALBO.—Most of our readers have admired the rich scarlet berries of the A. crenulata (similar in size to the common Holly berries), which appear so ornamental in our stoves during autumn and winter. The present plant has white fruit, which contrasts very prettily with the scarlet of the original species. It can be purchased at five shillings each.

BORONIA DRUMMONDII.—The foliage is exceedingly neat, and the flowers of a fine red colour. In Mr. Van Houtte's collection.

GENATHYLLIS TULIPIFERA.—A very charming plant, having the appearance of the Beufortia decussata, with terminal flowers, of a beautiful yellow, veined with crimson, in the manner of tulips, which in form they resemble too.

GLORIOSA PLANTII (from Port Natal).—The flowering stem rises three feet high, erect like those of the upright Alstræmerias. At one foot high it produces a cluster of flowers, at two feet another, and at three feet the terminal one is borne. The blossoms are fine, of a beautiful red colour. It is a valuable acquisition for the stove or warm greenhouse. In Mr. Van Houtte's collection.

CENTROPOGON SPECIOSUS.—This is another superb flowering plant, belonging to the order Lobeliaceæ. The leaves are of a velvet green above, and a deep red beneath, very handsome. The flowers are of a brilliant orange-scarlet, and their fine heads are very ornamental. It merits a place in every stove or warm greenhouse. In the collection of M. Linden, of Brussels.

CYANELLA METALLICA.—This fine plant is somewhat like the Medinellas. The leaves are of a metallic blue, and divided into parts with satin green. This large fine foliage has a striking appearance, said to be unequalled in beauty. In Mr. Linden's collection of stove plants.

Espeletia Argentea—It is from the Andes of Columbia, and grows near to perpetual snow. The leaves are beautifully silvered, in rosettes, and have an elegant appearance. The flowers are yellow, produced in branching spikes, similar to a candelabra.

Eipeletia neriifolia. — This is an inhabitant too of the same situation as the previous one. The leaves are green above, but white beneath. The flowers are white, numerous, produced in a large raceme. In Mr. Linden's collection.

Diustema quinquevaunera. — A pretty achimenes-like plant, having glossy leaves. The flowers are white, having five purple spots around the centre of each blossom. In Mr. Linden's collection.

Dipteracanthus paniculatus. — From New Grenada. The plant is rather small, but blooms abundantly; the flowers are of a lilac-blue. A handsome plant for a warm greenhouse; strong heat is injurious to its growth. In Mr. Linden's collection.

Eucharis candida.—It belongs to the Amaryllideæ. The flowers are produced in an umbel, drooping, a pure white. It is an elegant plant, and merits a place in every greenhouse or stove. It is from New Grenada. In Mr. Linden's collection.

Passiflora marmorea.—A charming plant; the leaves are green, beautifully marbled with white. The form of the leaves is similar to those of the bat-winged Passiflora. It is said to have very beautiful flowers too. It is from New Grenada, and merits a place in every stove or greenhouse. In Mr. Linden's collection.

Trianaea nobilis.—This new genus is a very remarkable one. The flowers are similar to those of the *Cobæa*. It is a neat climbing shrub, having large thick leaves, like those of the Solandra. The fine large bell-shaped flowers are exceedingly showy and handsome, and are produced in long axillary peduncles. The corolla is white, and the calyx of a rich rose colour. It is from a temperate part of New Grenada, and is most likely to flourish with us under similar treatment to the Cobæa scandens; a valuable acquisition. In Mr. Linden's collection.

Phlox Drummondi Radetzki.—Three parts of each petal is of a rich scarlet colour, the outer edge of that colour being feathery. The margin is pure white. It is exceedingly showy and handsome.

P. Drummondi Radowitzi.—The ground is white, and half the margin of each petal is of a beautiful sulphur. Each blossom has a large striking eye of rosy-carmine, with a white tube in its centre. A very pretty variety; the heads of blossoms are large.

P. Drummondi oculata.—Flower white, with a broad band of lavender around a small starry crimson-coloured eye. Blossom large and of good form. Plants are to be forwarded early in May from Germany to a London agent, who is commissioned to supply them to order, by Messrs. Moschkowitz and Seigling.

Begonia Prestoniensis. — Messrs. Lucombe, Pince, and Co. forwarded us a large flowering specimen of this magnificent blooming plant. We have got it engraved, but it was too late to appear in our present Number. The plant is of excellent habit, fine foliage, large blossoms, and produced numerously in large panicles. They are of a brilliant orange-scarlet colour with a golden centre of anthers, contrasting prettily with the other part of the flower. It is very much superior to any other of this charming family—one of the most handsome and ornamental plants we possess. It blooms for about three parts of the year, and highly merits a place wherever it can be grown.

New phloxes.—The following fine seedling, hardy herbaceous varieties have been obtained between *decussata* and *pyramidalis*, by an eminent florist in France, and are to be had this season.

Charles Rouillard.—Flowers large, a rosy-carmine lilac, with a large deep cherry-coloured eye; very fine.

Docteur Andry.—Flowers large, lilac-violet, with a very dark eye, and at the base of each division there are two spots of white.

Fanny Adum.—Milk white, and spots of rose around the tube.

Madame Basseville.—Flowers large, white, suffused with lavender, and a very striking rich cherry-coloured eye.

Madame Corbay.—Milk white, with a violet eye.

Madame Millerat.—White tinged with pink, and a fine eye of vivid carmine. It is of the pyramidal group; very superb.

Madame de Vatry.—Pure white, with a large cherry-coloured eye and in immense panicles.

Madame Veillard.—White, with large rose centre, in large panicles; very elegant.

Monsieur Domage.—Rosy-violet, with a large crimson eye, in large panicles; very superb.

President Decaisne.—This is of a dwarf habit; the flowers are borne in large panicles, of a pale carmine, with a very dark eye. The raiser, M. Lierval, has for some time paid much attention to raising seedlings of this beautiful family of plants; some have been sent out in previous years, and the above are now offered and may be had in London this season.

Pentstemon Grandis.—This is a hybrid from the true *P. gentianoides*, and is of vigorous habit and a free bloomer. The flowers are of a violet-blue, and the throat striped with white and carmine; exceedingly handsome.

Anemone flowered chrysanthemums.—Two very beautiful additions to this interesting section are now first offered to the public, viz.:

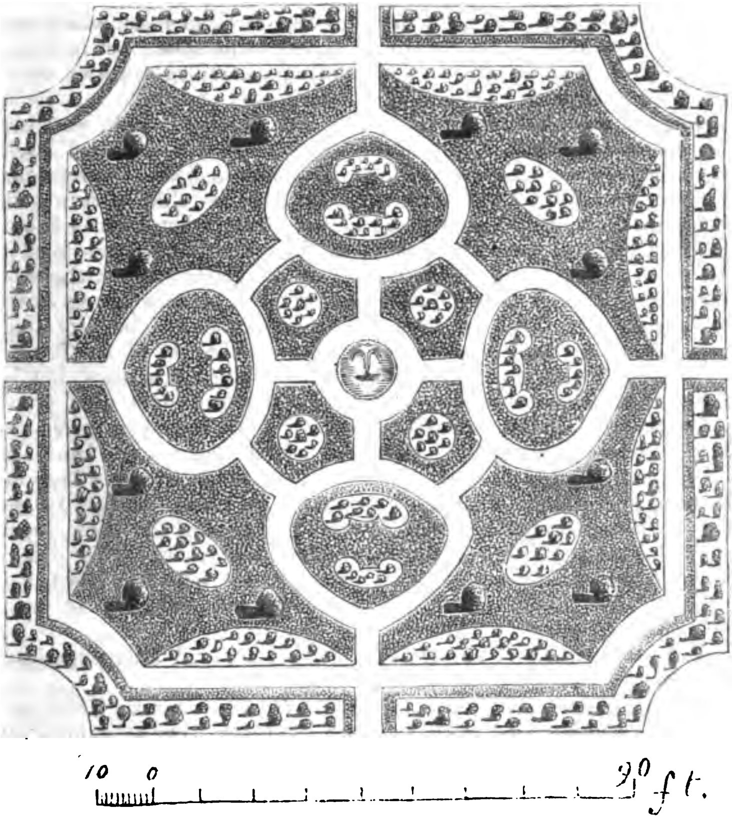
Gold Anemone.—Flower of smaller size, of a rich golden-yellow, and *perfect* in form. The plant is a profuse bloomer.

Reine des anemones.—Pure white, the petals large and perfectly regular in form. The centre is yellow and rose; very handsome. These may be had of an agent near London, and eighteen new, *very double*, beautiful minima Chrysanthemums, well deserving to be in every collection.

Dianthus Grandis.—This is a very beautiful hybrid, a most free bloomer, flowers large, a lilac-purple colour. It merits a place in every flower-garden.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 5.



It will be perceived by the scale, that the above design embraces a considerable extent of ground, but which may be brought into a less compass if desirable. The shrubbery surrounding it may be widened, so as to allow for flowers inside the grass verge. The segments of circles along the sides of the walks, together with the four oval clumps, can be appropriated for a mixture of flowers, and the remainder for masses. The basin in the centre, for a fountain and gold and silver fish, may be converted into a site for an ornamental sun-dial, or any other architectural ornament. The garden can be entered at either, or all four of the sides.

SEEDLING CALCEOLARIAS.

BY A YORKSHIREMAN.

FLOWER culture in all its branches is a very pleasant occupation, but by far the most exciting part is raising seedlings. In cultivating old varieties there is a staid, sure feeling, a certainty of producing some known feature, a known and admired colour, mark, or form, which your only endeavour is to bring forth as perfect as possible; but in raising seedlings there is the hope of producing something superior to all others — a certainty there is of producing an indefinite number of marks, colours, and forms, all more or less pleasing. With what care you choose the parent of your future *hope!* What a thousand bright pictures present themselves to your imaginations whilst impregnating the one selected for the mother plant! But the chief pleasure and excitement is when the plants are showing bloom, when opening flowers are beginning to show what colour, or form, or marks—some good in one point, some in others, and some in altogether, with a thousand variations, pleasing in some particular, though perhaps not up to the florist standard. Then let those who never yet raised a batch of seedlings begin, for there is pleasure in store for them of which they are little aware. I do not mean that all should raise Calceolarias, but let each try his favourite flower. I have for the last seven years grown some 500 seedling Calceolarias, of which I have each year saved the best. I have now about forty kinds; which, though my own bantlings, would not disgrace a metropolitan show. The following has been my mode of proceeding. In 1845, I purchased six kinds, the best I could find, of the most varied colours; I cross-impregnated the whole, sowed the seed separate, and made memorandums of each. This plan I followed for three years; my aim being to see how they sported or followed after kinds seeded or impregnated with, whereby to lay a foundation for the future proceedings.

The following are the conclusions I came to, and after experience also has confirmed:

1st. The female parent *must* be of good form; of course, if the male parent be of good form also, so much the better; but sometimes you have a desirable colour, or marks, which you want to improve, whose form is not all that you could wish.

2nd. The female parent must not be yellow grounded, or a great majority of the seedlings will be of that colour; the originals being yellow, they stream back.

3rd. To ensure a good healthy habit in the seedlings, the female parent must be of a good habit of growth.

4th. The male parent has most to do with the colour and marks (except the yellows); therefore choose a female parent of good form, healthy habit, and not yellow-grounded, and impregnate with whatever colour or form of marking you wish to imitate.

IMPREGNATION AND SAVING SEED.—When the plants are in bloom, take the bloom of the male parent in your left hand and press your finger lightly against the stamens and the pollen will adhere to it, then touch the ends of the pestilum (steadying the bloom with your left hand) with the pollen on your finger, and part of it will stick to it—the bloom is impregnated. I never could make anything of a camel's-hair brush, so often recommended. In a day or two the bloom impregnated will fall off, and you will soon see the seed-vessel enlarge. It should be guarded from wet; when it begins to turn brown, cut it and lay it on paper for a few days, in a dry place, when the seed will rub out.

Sowing the Seed.—August is the best time for sowing seed for beginners, because the plants get a good size before winter: the beginning of September, when wintering-room is scarce, and when you have had a little experience. The most suitable soil is sandy peat and a little loam. Seed-pans, four inches deep, are the best to sow the seed in, thus: put half an inch of drainage, then three inches of the above soil, and with something flat make the surface even; water them, and let them stand half an hour, when sow the seed thin, over which sprinkle a little silversand, just to hide the seed: it cannot be covered too lightly. Place a piece of glass flat over the mouth of the seed-pan, and set it in a greenhouse or cold frame, and when the sun shines strong, put a piece of thin paper over the glass as a shade. Should the surface of the soil become dry, syringe it slightly, but beware of heavy waterings. When the young plants begin to appear, gradually remove the glass, but retain the paper in sushine. At this stage the seedlings are very delicate. When the seedlings are fairly above ground, that is, made a third or rough leaf, place them out of doors, and to guard against heavy rains place a hand-glass over them, supported by three bricks, so that they can get abundance of air night and day: continue to shade from strong sunshine.

Pricking out Seedlings.—As soon as the plants can be handled, prick them out into pans, similar to what the seed was sown in; or shallow boxes answer very well. Let the plants be two inches apart. Soil for this purpose—peat, leaf-mould, and loam, equal parts. In February, pot them into three-inch pots, using the same soil; when the roots reach the outside of the soil, pot them in five-inch pots, in which they may bloom, using more loam in the soil.

THE GENUS DIPLADENIA.

BY MR. J. R. TANTON.

(Continued from page 85.)

When the plants are in full bloom it will be advisable to remove them into a somewhat cooler temperature, which will prolong their beauty and likewise tend to prepare the plant for winter rest. Some difference appears to exist in the opinion of botanists as regards the limits of this genus; and an allied one, called "Echites," has at present defined the species of Dipladenia to four in number. The best known is D. splendens, which was introduced in 1841, from the Organ Mountains;

and is more generally cultivated than any other member of the genus, on account of its producing such lovely rose-coloured blossoms, very large in size. The second is D. crassinoda, introduced from Rio Janeiro in 1842; flowers a brighter rose than splendens, but smaller in size. The next is D. atropurpurea, from Brazil in 1842; flowers a dark purple. The fourth is inophylla, introduced in 1847 from Brazil, having deep salmon flowers. It may be interesting to our readers to know that this genus belongs to the (Nat. Order) Apocynaseæ, the genera of which are generally tropical, throwing out a few representatives only, such as Vinea and Apocynum, into northern countries. They appear to be most abundant in the hot parts of Asia, and less common in the tropics of America, and very limited in Africa. They are in many cases venomous and very generally to be suspected, although in some cases they are used medicinally, and in others have an eatable fruit. Among the true poisons, Tanghinia Vennimfera stands foremost; the kernel of the fruit, although not larger than an almond, is sufficient to destroy forty people; and from a species of Echites the Mandingoes are said to smear their arrows, as it is the most deadly poison. In general this genus is narcotic but with considerable acrimony, whence the species are employed, especially their roots, as drastics and epispactics. Aspidosperma excelsum is, according to Schomburgh, remarkable for its trunk growing from the lower part into tubular projections, forming cavities, which serve the Indians as ready-made planks, and in the construction of their paddles; the trunk appears as if fluted, or rather as if it consisted of a number of slender trees grown together their whole length. The sages of Ceylon having demonstrated, as they say, that Paradise was in that island, and having therefore found it necessary to point out the forbidden fruit of the garden of Eden, assure us that it was borne on a species of this genera, the Divi Ladner of their country, and probably Tabernacmontana dichotoma. The proof they find of this discovery consists in the beauty of the fruit, said to be tempting in the fragrance of the flower, and in its still bearing the marks of the teeth of Eve. Till the offence was committed which brought misery on man, we are assured that the fruit was delicious; but from that time forward it became poisonous, as it now remains.

TREATMENT OF FUCHSIAS, WITH A FEW HINTS ON THEIR GENERAL MANAGEMENT, AND NAMES OF A FEW GOOD VARIETIES.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

This being the month that these plants should be potted, in order to make specimen plants to bloom after geraniums and other spring flowers have ceased to give us their beauty, no doubt many of our readers will now be procuring new varieties. It is a matter of interest to them to know the quickest and best way to grow them, so as to form fine specimens, and bloom them to perfection as soon as possible. Those of our readers who purchase the new kinds, or some of the best of last year's, we advise always to select strong free plants, with a single shoot to form a leader. Supposing the plants received are strong ones, in sixty-sized pots, give them a shift into forty-eight-sized pots, using a compost of one-half half-decayed leaf mould, and one-half silver sand and peat, mixed well together; the pots to be well drained with crocks, and a little moss, or any rough soil to be placed over that drainage to keep it free. In the first potting, press the soil moderately firm, and give it a watering with a fine-rose pot, to settle the mould properly. Place the plants when potted in a warm corner of the house, "and, if possible, a moist one too." Admit air sparingly, for a week, until the plants begin to make fresh roots, when give them a little to strengthen them, and shade for about two hours from the mid-day sun. By pursuing the above directions about three weeks, they will require another shift into larger pots, say twenty-sized, when the soil should be one part leaf-mould, half-decayed, one part turf peat, one part rotten dung, and one part hazel loam; let the above be well mixed together, and a little sand therewith to keep it free, and use it in as *rough* a state as possible after it is well mixed. Let the pot be well drained. But a word on draining pots for them:—Let the pots be thoroughly *clean*, place a broken potsherd over the hole in the bottom of the pot, then have a few smaller potsherds and place loosely over the bottom, and a small quantity of pieces of charcoal, placing over the whole a layer of sphagnum moss to keep the soil from choking up. In turning the plant out of the pot, great care is required not to break the boll or the roots, as an accident of this sort often checks the growth and spoils the plants. After the second potting, let them be kept warm and moist for a few days, to enable them to recover the shift and to get fresh rooted in the new soil. After they get well rooted, give plenty of air to grow them strong, shade them from the mid-day sun, and give them a thorough syringing night and morning to promote their growth and keep off the red spider. Water them twice a week when growing with *liquid-manure*, which will very materially promote their vigour. I have here only mentioned two shifts for them; but where large plants are required, and there is room to grow them, they may be grown and potted on using the soil as recommended for them at the second shift, and as rough as possible. Let the plants be trained on the one-shoot system, having the branches to grow regularly out right and left. Never pinch them back, unless it is to shorten a branch that is out of its place. By pursuing the rule for Fuchsia-growing, as above described, I am sure every satisfaction will be given. After plants have finished blooming at the fall of the year, they may be removed from the greenhouse and be placed in the shed, or any cool place out of the reach of frost; and do not give them any water until they are required again in January for cuttings, when they may be removed from their winter quarters to the propagating-house, be well watered, and in a little time they will begin to break. Cuttings strike freely in equal parts of leaf-mould and silver-sand well mixed. When rooted, they should be potted into sixty-sized pots, in the soil recommended for striking them in; when strong enough to repot, shift them into forty-eights, as before described. Some cultivators prefer growing the plants the second year; and to those of our readers who have accommodation for large plants, I recommend the following method:—After the usual winter's rest, let the plants be removed to a greenhouse, previous to which turn the plant out of the pot it bloomed in, and remove all the old soil; of course all that will come away without injuring the boll of roots; then let it be potted in the compost, as recommended before, give it water sparingly at first, and increase it as the roots push out in growth. Let the long shoots of last season's growth be spurred into about six or eight buds, when they will break out and form fine, not wide-spreading, but close, shorter-branched, profuse-blooming plants. The temperature of the greenhouse should be about sixty degrees. Annexed are the names, with the colours, of a few good varieties that should be in every collection:

Dr. Lindley, crimson tube and sepals, dark-purple corolla, fine.

Duchess of Lancaster, white tube and sepals, vermilion corolla, extra fine.

England's Glory, tube and sepals white, crimson-lake corolla.

Glory, Banks', crimson tube and sepals, dark-purple corolla, good form, well reflexed, free bloomer.

Incomparable, white, with a purple corolla, fine.

King Charming, scarlet-crimson tube and sepals, purple corolla.

Lady Franklin's, white, with a pink corolla.

Mrs. Patterson, white, purple corolla, large and extra fine.

Purple Perfection, fine crimson, dark-purple corolla, well reflexed, and extra good form.

The above are new varieties, sending out for the first time this season; the price is from 7*s.* 6*d.* to 10*s.* 6*d.* each.

Cartonia, crimson tube and sepals, dark-purple corolla.

Commodore, carmine tube and sepals, plum-purple corolla.

Diadem, a well-reflexed variety, crimson tube, dark-purple corolla.

Gem of the Season, crimson tube, purple corolla.

Hendersonii, deep-crimson tube and sepals, well reflexed, showing a deep-purple, very double corolla.

Roi des Fuchsies, orange tube and sepals, dark-rose corolla, fine and large.

Honey-bell, white tube and sepals, rosy-pink corolla.

L. Elegant, white, vermilion corolla, good habit.

Nil Desperandum, bright-scarlet tube and sepals, corolla violet.

Verris, dark-crimson tube and sepals, purple corolla.

Ariel, white, vermilion-scarlet corolla, well reflexed.

Beauty of Deal, white tube, vermilion corolla, fine.

The twelve varieties last named are the best of last season's production, and may be purchased at a trifling cost. There are some of previous years' raising which are of first-rate excellence, quite equal in some respects to the later ones; their true colours and properties will be found in the published catalogues. The freedom with which this fine and highly-interesting family of plants bloom, the long period they are in flower, and their ease in cultivation, alike contribute to render them deserving of universal cultivation in every greenhouse, sitting-room, and flower-garden.

CULTURE OF MANDEVILLEA SUAVEOLENS.

BY MR. F. THORNE, OF SHUCKBURGH PARK.

For some years after this charming flowering-plant was first cultivated in England, it was treated as a stove-climber. In such a situation it will flourish admirably, but will not produce flowers so freely as when grown in a cooler temperature. It merits a place in every conservatory or greenhouse. During its growing season it can hardly be grown in too moist a temperature, as the foliage is very readily attacked by the red spider. In a moist stove this insect seldom appears. Also this plant is much subject to the green fly. A slight fumigation is often requisite. Its large pure-white, funnel-shaped blossoms render it very attractive; they are also very odoriferous. The following mode of treatment I have found to answer every expectation:—I generally find it to strike more freely from *layers* of the *previous year's growth* than by cuttings. To promote the growth of young plants, they are first grown in a moist temperature of about sixty degrees, after which they are placed in an intermediate greenhouse. In this situation the plants grow well and flower abundantly, grown in twelve-inch pots; and when trained to the rafter produce a nice effect, more so than when trained to a wire trellis, as the racemes of flowers show more to advantage. In all stages of growth the plant requires to be syringed overhead once or twice a day, according to the exterior atmosphere; and a slight shading is necessary for a few hours during a hot day. Leaf mould, loam, and sandy peat constitute the compost generally used, in which the plants grow and flower luxuriantly. When the season of growth is completed, water is gradually withheld, and the plant kept in almost a dormant state throughout the winter. When struck early in the year, they will make nice specimens for autumn decoration. I have read of its having proved hardy when planted in a sheltered situation against a south wall. I cannot vouch for the truth of such a statement. (We have seen it so grown and bloom freely.—Editor.)

VARIETY IN FLOWER-GARDENS.

Variety is, after all, the great idol which the majority of mankind worship; and for variety's sake it is the common fashion to make almost any sacrifice. Now, without attempting to decide whether or no this eagerness to bow before a shrine identified with inconstancy, be generally praiseworthy, as it is generally prevalent, it may surely be assumed, that at least, as far as regards flower-garden arrangements, there is little or no folly in becoming one of variety's devotees.

If this be true, the fact militates more or less against the practice of planting large masses of unbroken colours to make up a flower-garden. The end thus attained is no doubt a gaudy display; but, paradoxical as it may appear, the question may be raised, whether, in such cases, gaudiness is not obtained at a sacrifice of effect. Doubtless there is, and ever will be, more than one opinion upon such a point; but at any rate, it may not be assumed as unquestionable that a gaudy display and elegance of effect are synonymous. The fact appears to be, that here we have a contest—not an uncommon one—whether quantity or quality should prevail. The great glare of colour in the one case, as the more attractive, is commonly set down as the more perfect result; a decision which, upon the face of it, appears questionable.

But it does not therefore follow that colours should not be massed. To be effective, colour must be decided or obvious, and to be decided or obvious, it must not be too much broken or isolated. It seems, therefore, on the whole, that the effort to be made is rather to contract than to enlarge the groups of flower-garden plants, in order that a given space may show a contrast or variety of colour, instead of an unbroken monotonous hue. Size is, however, always relative, and what is large in one place would be small in another, so that no absolute rule as regards the size of masses can be drawn in respect to the distribution of colours.

It is some years since the circle was first recommended as the most desirable figure for flower-beds, and it is now, as it was then, true, that the more perfectly angles in flower-beds, and especially acute angles, are avoided, the better; that is to say, if the bed is to represent a mass or any formal combination of colours; for there is a tendency towards rotundity in the growth of all plants, which renders it next to impossible that angular outlines—especially sharply angular ones—should be fairly filled out with flowers.

The circular or rotund style of flower-beds certainly offers one of the readiest means of promoting variety in flower-gardens planted on the grouping or massing system. Instead of being entirely filled with one kind of plant, such beds may be very readily planted either in zones, or in divergent rays, and from the simplicity of their form, these arrangements of the plants, and consequently of the colours, are obvious, and, being obvious, they are effective. This can never be the case with intricately fitted angles, which, though pretty enough on paper, or even when cut out on the ground, lose all their distinctness when the plants come to grow up in them.

Whether or no circular beds, or beds of rotund character, become more generally adopted, it seems to be desirable that an attempt should be made to impart greater variety to modern flower-gardens, by the more frequent adoption of what may be called compound planting, or, in other words, by forming the larger groups or beds in a flower-garden of several colours in distinct masses, instead of employing one colour only, these several colours being so disposed as to harmonise or contrast, as the case may be, both with those in the same group, and those in the groups adjoining. The individual masses, or sub-groups themselves, should be distinctly recognisable both in respect to size and outline. Probably almost every garden might in this way be made to contain three or four times as many kinds of plants, as if otherwise filled; and this change might be made without any sacrifice of the general effect, but would be rather productive of improvement. Touching this very bearing of the subject, it has been pointedly asked, "Is a red cloak more elegant than an embroidered shawl?"

This or some such principles brought into operation would tend greatly to supply flower-gardens with what they stand much in need of—a greater variety of vegetable forms. As it is, too much deference is paid to mere colour. For example, because the Verbena combines, with a habit and other characteristics admirably adapting it for grouping, considerable variety of colours, mostly brilliant and striking, it is by no means clear, if mere colour is to continue the chief object of attraction, that we may not yet live to see the time, when the term "flower-garden," will be almost an equivalent to a "garden of Verbenas." A garden of Verbenas, however, would have nothing like the interest that attaches to a garden of varieties.—*Magazine of Botany.*

MISCELLANEOUS SECTION.

Application of Liquid Manure.—Notwithstanding all that has been said respecting the use of manure-water, there is still, I think, room for a few further remarks on the subject. As to its profitableness generally, no doubt remains; but this very fact may, perhaps, occasionally be the means of misdirecting its use. The method of applying it to the roots of plants is so well known, that it requires no comment; but as regards the kind of water suitable to certain sorts of plants, we are guided by guess, and a hope that all will succeed well, more than by any fixed principle of action. I have proved, more than once, that guano has a very injurious effect upon the Hyacinth; a quality of guano-water that will make a Camellia grow well, producing very dark foliage and large flowers, has, at least in my case, induced a weakly growth, or a state of torpidity in the Hyacinth; but the effect upon the latter flower is altogether changed when common dunghill water is employed, with which it will be found a difficult matter to overdo it, provided perfect drainage is secured, and nothing sour permitted to stagnate about the roots. The Balsam is another plant with which I have found guano not to agree, when applied while the plants were about six inches in height; some have perished, and others have become attenuated, having all the appearance of having been grown at too great a distance from the glass. I have found, however, that a good mixture of bone-dust in the compost of this plant has given it a robustness which it has not attained without it. I have also found its effects on Orchids to vary considerably; but syringing the basket, blocks, &c., with a mixture of weak guano and soot-water, well clarified, has proved of advantage to all; when applying the same, however, in a much weaker form over the foliage, Zygopetalum Mackayi and its varieties have become lengthened in the leaves and flower-stalk, so that the individual blossoms were placed at too great a distance apart, causing it to lose much of its effect; Oncidium ampliatum, on the contrary, was so much improved under the same treatment, as, at first sight, to be mistaken for the larger-flowered variety by good metropolitan judges. As a general rule, I have found that all evergreen plants having considerable consistency in the leaves, delight in an occasional syringing with weak and clear liquid manure; and in endeavouring to work out this idea, I applied it to some large Camellias, which, owing to various causes, had got sadly unhealthy; a watering at the roots, together with a syringing, especially after a bright day, was doubtless the principal means of restoring them to perfect health. I syringed a large plant of Stephanotis Floribunda in this way, had its roots reduced, and a considerable quantity of fresh soil added, without the loss of a leaf. I might lengthen these remarks, but, perhaps, enough has been said to direct the attention of others to the subject.—*John Richardson, Parham-park, near Starrington, Sussex.—Gardeners' Chronicle.*

REVIEW.—*Glenny's Quarterly Review.*—The Second Part has just been published. It contains some valuable information on many subjects connected with Horticulture in its various branches, and in his usual faithful style. The extract we here give is a fair specimen, and, we think, worth the price of the book to all concerned.

"*Bargains in Plants and Seeds.*—That there is a good deal of humbug in the London seed trade cannot be denied; but it is as notorious that the public have, in a great measure, been the cause of it, and their indiscriminate love of quantity for money has brought it all upon themselves. The thirst for low prices has caused a most unwholesome competition. A scamp sets up for cheap selling, advertises retail seeds at less than he must pay wholesale to procure them himself. Common sense tells us that there are only two ways to do this; one by adulteration, the other by cheating his creditors. He must cheat somebody, either those he buys of, or those he sells to must be taken in. Yet such is the rage for cheap things that thousands encourage the cheap seller. The fair tradesmen see the ground slipping away from under their feet; they must either meet the public or lose their business. If none but sensible persons purchased seeds it would be no trouble to show them that they were duped by the cheap sellers; but it is not so: a vast majority do not know a good seed from a bad one, and nobody but the raiser can know the sort, that is, the particular variety, nor whether it be true or otherwise. The most respectable houses, where every precaution is used, are occasionally deceived. They may know the sample is good and in good condition, but although every seed may grow they may be far from true to the sort they buy it for; in which case it is worthless, and every ounce they sell injures their trade. The best seedsmen send their own seeds to be grown by regular seed-growers, and pay them so much per quarter, or bushel, or ton, as the case may be, for all they can produce from that seed. There are seed-growers who, judging what will pay them best, will grow on their own account; but having established a reputation and a connection, they have no difficulty in finding a market among those who know them. But of what use is seed that can only be bought at a full price to compete with the cheap shops? It is to be regretted that in an article which tells no tales as to its quality for months, the public should be so careless. Every man who has a shilling to spend should have the moral courage to deal with first-rate houses, and be content to pay a first-rate price for a first-rate article, because he is completely at the mercy of the seller, who has many ways of cheating him if disposed to do so. One mode of imposing on the public is to adulterate the article by means of dead seeds, and this has often been done to the extent of 75 per cent. Another mode is to serve them with an article of which the growth is unknown, and which, for want of a character, will bring no price in the market among creditable buyers. It is, therefore, bought to kill and mix with good seed, or to be retailed at a cheap rate. There is nothing more absurd than buying cheap things for a garden. Thousands of bulbs are sold at the marts under the hammer of rigging auctioneers, and yet failure in the bloom, year after year, will not cure silly people from buying. In seeds a man is not only robbed of the cost, but he loses his ground, his crops, and his season. People can be found who will sell a hundred packets of flower-seeds for a crown; but would a man who has a character to lose, or a connection to preserve, or whose time is worth anything, do so? No; and yet there are persons weak enough to buy the rubbish, because it is cheap. We know we are handling a ticklish subject, and that in this, as in many cases, we may offend people who might do us good. Our hope is, that truth, however ugly, will ultimately prevail; and that if we offend one by telling unpleasant facts, we may gratify ten by opening their eyes to the tricks which are played, and save them from being duped. Good seeds are of such importance, and the cost so small, that we cannot, and never could, account for the prevailing disposition to look at the price. Let us consider, for a moment, that a family wish to provide a crop of cabbages, the difference between the very highest and the very lowest price could not be three pence, and when the crop comes it may not be worth the price paid for the seed, and it may be all that can be required. "Penny wise and pound foolish" is a saying often applied to those who run after cheap things, but in no case does it come with such force as in garden matters. If a man buy what he can see, he may be taken in a little, and pay a small penalty for running after bargains; but in seeds a man is buying a future crop of something that may be good or good-for-nothing; and if the latter, he will have lost all his time and room as well as his money. We, therefore, strongly advise the public to avoid cheap things in all garden matters. Avoid all auctions but those on a man's premises, where there is a tangible reason for selling, and a chance of fair buying. We do not mean a sale where a man once a year pretends his ground is wanted for building, and has a sale with reserve upon every lot worth having. How often have we seen sales on the same premises, and the ground, after it was over, about one-third cleared. The best thing the public can do, if plants are wanted, is to go to a respectable nursery, buy only what is wanted, and of the size it is wanted. Avoid auctions altogether; leave them to the trade, who, if they can buy worth their while, purchase, and if not let things alone. A gentleman may be sure that if he does get a bargain, to all appearance, there is something which the trade discover and which he does not, and that nine times in ten such bargains are dear.

MEANS OF IMPROVING SOILS FOR POTTING.—Amateurs much feel the want of a generally useful compost. I should like some of your correspondents to try the following, and give their report:

Take a quantity of the common mosses (Hypnums answer the purpose best), dry them in a hot room till they will crumble to powder when rubbed in the hand, or, as I do it, through a fine wire riddle.

Do not bake them, though a nearly cold oven will answer in careful hands, for if too much heated, one of the two essential qualities—elasticity, will be deteriorated, and the material partly converted into a clammy matter, perhaps dextrine, or some analogous substance.

Now the peculiar quality of this moss-powder is, that it renders any soil with which it is mixed elastic. Such a compost will never set hard, or become sour. Thus one great amateurs' stumbling-block is at once removed, and hard potting, required by many plants, may be fearlessly practised, as it seems to secure perfect drainage. Mixed with lumpy loam it will grow Camellias well, and it is a capital addition to the strong soil used for Amaryllids. Added to any of the ordinary loamy composts, it makes at once a medium in which almost any stove plant will luxuriate. Begonias grow in it as if they could hardly contain themselves. The same with regard to Gesneras, Gloxinias, and other tuberous sorts.

The second quality hinted at was its powerful and lasting fertilizing property. With regard to proportions, we know that plants will thrive in pure moss, so that we cannot well err on that point. A larger quantity may be used for quick and temporary growth, and less for more permanent potting. It will also be added to stout rough material, or fine and sandy, according as we would grow an Hedychium or a fancy Geranium,—which last, by the way, will flourish in it; in fact, it seems to act the part of the rotten turf of the nurserymen, so much insisted on, and so hardly to be procured by the generality of amateur gardeners, especially in towns. Now, I assert that it will render the poorest worn-out kitchen-garden soil more than tolerable to the generality of plants, and that is something.—MICKLEWELL.—(*Gardeners' Chronicle.*)

DIPTERACANTHUS SPECTABILIS.—This very desirable plant is, without doubt, the largest flowered one of the genus, if not of the natural order to which it belongs. Its corolla is much larger than that of D. grandiflorus; in colour it is a rich deep purple-blue, with dark veins. Like many others of its family, soon after, and even in many instances before, going out of flower, it gets naked, and the foliage turns yellowish. An intermediate house suits it well, as it dislikes fire-heat; a warm frame is, however, the best situation to grow it in, and it should be removed to a house of nearly the same temperature to flower. Cuttings of it, placed in light soil and silver-sand in a gentle bottom-heat, root freely. As soon as they are struck, which will happen in the course of a few weeks, pot them singly in small pots, or, which is much better, put three in a moderate-sized pot. In both cases, while the plants are small, water must be given sparingly during winter, but do not let them become *over dry*. When they begin to make active growth in spring, they should be placed in large pots. Dwarf plants are better than tall ones, as they flower near the tops of the shoots only. The reason why I recommend putting three plants in one pot is, because of itself one makes but little show.—F. SYMONS, *Carclew.*—(*Gardener's Chronicle.*)

NEW PELARGONIUMS.—GLOIRE DE BELLENUB.—Each petal has a *large dark blotch* of the *same size*, and the margin is white. A very striking variety.

Jacques Duval.—The upper petals have a large dark blotch, surrounded with crimson, and a narrow light margin; lower, pink with a crimson spot on each.

James Odier.—Upper petals have a large dark blotch, surrounded with crimson-scarlet, and a narrow white margin; lower, a crimson-scarlet, and about half the lower portion is white.

Elise Miellez.—Upper petals a large dark blotch, with a rosy margin; lower, beautiful pink, with a striking medium-sized dark spot.

Auguste Meillez.—Upper petals, a very dark spot, surrounded by fiery crimson and a pale margin; lower, a pale flesh-colour, having a *round* dark spot on each, and slightly veined.

Gustavus Odier.—Ground colour, a bright rosy-crimson; upper, having a large dark blotch; and lower, a very dark round spot.

Etoile des Jardins.—Ground colour a bright rosy-red; upper petals, a large dark blotch; lower, a medium-sized black round spot. The flowers are of good size and of good form, quite equal, as apparent in the drawings, to our best in this country. The margin of one is slightly notched at the edge. All are handsome, and would prove a valuable acquisition to any establishment.—*In M'Meillez's Collection.*

New and excellent "Forcing Pelargonium."—Mr. Gill, florist, of Westbourne-grove, has obtained a very valuable seedling, named, "The Queen of February," which proves to be the *best variety* hitherto raised for *winter blooming*. It is a good-shaped flower, a bright rosy-pink, with a dark blotch on each of the upper petals, and a very free bloomer. It blooms admirably from January to May, and will be a valuable acquisition.

Hydrangea Japonica variegata.—Mrs. Cooper requesting a description of this very handsome plant, we have to state, it has the habit of the well-known old Hydrangea; the leaves, too, are as large, of a vivid green and pure white, the contrast being exceedingly pretty. The flowers are rose-coloured, and form a large head. We are trying to induce it to produce *blue* flowers, same as is done with the common Hydrangea. It merits a place in every greenhouse or room-window. We think it will prove to be hardy enough to flourish in the open ground, as does the common one. If so, it will be a valuable acquisition to the shrub border.

Compost for Achimenes.—Grown in pans six inches deep and fifteen wide, I have had A. picta in the stove four feet high with numerous branches, in profuse bloom. The same with A. hirsuta and penduncultata. Also all the dwafer-growing kinds, as A. coccinea, elegans, venusta, and A. grandiflora, longiflora, &c., in an equal degree of vigour beyond what I have seen elsewhere. The following compost is used—Equal parts of old rotted cow-dung, leaf-mould, and turfy-peat, with a liberal sprinkling of bits of charcoal and silver-sand.

A Practitioner.

FLORAL OPERATIONS FOR THE MONTH

THE pits and greenhouses now offer the parterre their winter-stored plants, which are already commencing their growth, and are eager to breathe the pure air. Caution must, however, be exercised in being prepared for occasional frosts, with some protection at nights in case of need. If your plans are not yet fully arranged, as to bedding out, &c., lose no time; particular attention should be paid with contrasting the colours to give a good effect. A flower-garden may be richly furnished with plants, but be very ineffective if the colours are badly arranged. For producing a brilliant effect in masses, reject party-coloured flowers; only use pure and decided colours, such as scarlet, pure white, deep purple, bright yellow, &c.; those which are in close affinity kill each other. Take care not to mix plants which are of doubtful duration, when in bloom, with those of a more permanent character, remembering always that the beauty of a formal flower-garden depends upon its being in all its details a perfect work of art, in which no blemish should occur. There must be high keeping, symmetry, judicious arrangement of colours (traceable to fixed principles), or it will not form a satisfactory whole. This should be particularly attended to. Many persons plant their stock so thinly, that their beds are not covered till late in the season; we advise *thick planting* for speedy effect.

When annuals are required for late flowering they may yet be sown; and hardy annuals that have come up too numerously should be thinned out, so as to retain but enough to be vigorous. Tender annuals, raised in pots or frames, should be taken, with as much soil to the roots as possible, and after the middle of the month be planted out. After all planting is done, the next operations will be training and pegging down the plants; this is a most important process towards having well-furnished beds. Climbing plants will now require training from time to time, according to their growth.

FLORISTS' FLOWERS.—Amongst these we may class the *Antirrhinum;* many of the kinds now in cultivation are exceedingly pretty, and deserve to be grown. Now is the best time to plant them out. *Carnations* and *Picotees* are by this time in their blooming pots; and as they advance in growth, attention will be necessary to stick and tie them up neatly. Stir up the surface-soil of the pots, and add a dressing of mixed loam and well-decayed dung. *Cinerarias.*—As these go out of bloom cut down the stems, which will induce an abundance of shoots for increase, and turn them out into the open ground where they are partially shaded. *Dahlias.*—The *third week* in the month is as early as it is safe to commence planting out. The young plants will be greatly strengthened by repotting them into larger pots, giving all the favourable air possible, in order to have them hardy when turned out. *Fuchsias.*—Repot and trim all the plants required for specimens; encourage their growth by frequently syringing them over-head. *Pansies.*—Cuttings put in last month may now be planted in a shady bed, for summer blooming. A good watering in dry weather will be necessary. Such as are grown in pots, for show, require particular attention, and by thinning out the side shoots much finer blooms may be had. *Pinks.*—As the blooming stems advance they will require thinning out. The more robust and very double kinds should have two or three stems left. *Ranunculuses.*—If dry weather continues, water must be liberally supplied; apply it between the roots and not over the foliage, and use rain-water if possible, preferring evening for the operation. *Tulips.*—The top cloth should at once be got on, and never let the sun reach the flowers after they show colour, but give all the air possible.

IN THE FORCING-FRAME.—Continue to strike cuttings of stove and greenhouse plants, and pot off such as are struck. Plants intended to be flowering specimens for the greenhouse, such as Achimenes, Gloxinias, Gesnerias, &c., should be grown here, and brought forward as rapidly as practicable. What are termed greenhouse annuals, as Balsams, Cockscombs, Salpiglossis, Rhodanthe, Thunbergias, &c., should be got on quickly. A strong stimulating soil, copious waterings, and ample pot-room, together with bottom heat, are inseparable necessaries to their successful cultivation.

IN THE GREENHOUSE, &c.—A free ventilation is of importance, and by closing with a humid atmosphere early in the evening a vigorous growth will be best promoted.. Give liberal shifts to such plants as now require it before the roots become matted; much injury is often done by deferring until a general shifting, Camellias, such as have formed their flower-buds, should be placed in a sheltered and shady situation out of doors. Ericas should have the ends of their shoots pinched off, to render them bushy and spreading. Climbing plants should be neatly tied as they advance in growth, and abundance of flowers will be the result. Shrubby plants of weak growth, and which naturally make *long frail shoots,* are much improved by bending down the branches, and fixing them to a wire attached to the rim of the pot; in this manner the nakedness of the plant at its base is hidden, and the check imposed on the ascent of sap will induce an increased supply of shoots. Azaleas, when done blooming, *promote growth.*

Pelargoniums.—Never allow the plants to flag, or the bottom leaves will turn yellow, and the plants then become naked. Put cow, horse, and sheep-dung in equal parts, with a sprinkling of quick lime into a tub, and to one peck of these add five gallons of rain or other soft water. When taking it for use draw it off clear, and give the plants a watering twice a week. Give air freely, shut up early, and syringe the plants overhead three times a week till the flowers expand. Fumigate to keep down green fly.

WATERING.—See the *entire ball* is made moist. A few holes made by means of an iron pin down through the ball will admit water into the interior.

BRIEF REMARKS.

On Dressing Florists' Flowers.—Twenty-six years ago, come next June, I first saw a box of cut pink blooms to be taken to an exhibition, where a selection out of that box gained the first prize. Afterwards I was admitted by the nurseryman, near whom I had recently gone to live, into the arcana of his art, and was witness to the "milliner's trickery," as your correspondent, Philip Havapek, not inaptly calls it, and scrutinised the form and nice adaptation of the instrument employed, and saw the slow and laborious process by which, through its means, a pink is fitted to shine amongst its compeers, like a young lady at a ball. And as I pondered over the matter, now marvelling at the skill of the operator, now despairing of attaining to his tact, it struck me, as it has struck your correspondent, that there is something very unnatural in all this, and calculated to mislead the public, by establishing a deceptive difference between shown flowers and grown flowers.

But as I have since considerably modified my opinion, and become reconciled to the practice, it is fair to ask whether I can give a sufficient reason for having done so. And this I will try to do.

In the first place, wildness is not a fair representation of Nature, any more than license is of liberty, or a savage the genuine type of a man. The same process of reasoning, if pushed to its legitimate limits, would forbid us to graft or to bud. We must not prune a rose-tree or train a fuchsia into shape by the knife. To stop a pelargonium, and to tie out or peg down its branches, would be tailors' trickery; and in fact, the striking from cuttings itself, is an unnatural process, and must be abandoned. We broke into *the principle* when we became cultivators, and the practice must now be tried on far narrower and less sweeping grounds.

Again, no pink of the present day, and all but no carnation and picotee, can bloom without splitting its calyx and becoming utterly unsightly, unless the calyx is supported by a tie. And this is dressing, as much as the disposal of the petals after expansion. If this be equally objected to, as it often is, the objection is really against having double flowers (which are unnatural), for no single dianthus splits its pod. But if we will not be content without having double flowers, and no good reason can be given why we should, we must be content to take the trouble which they entail; just as when we choose to have flowers in pots, or exotics in a conservatory, we place them in an unnatural condition, and may no longer leave them to unaided nature.

Moreover, the process of dressing is applicable but to few flowers. Philip Havapek has enumerated nearly all of them; and the objection is really no stronger than you have stated in your note to his communication. At the period I have alluded to, there were a few pinks (there were no carnations even then) useless to the amateur who did not exhibit, but which, by pains, might be made to push others, intrinsically better than themselves, from their place at a show. But there are none now. The good may be made to look better, but none unworthy of a place in any selection can now, by such means, be rendered fit for exhibition. Therefore the public deception caused by the practise is reduced within microscopic limits. Would there were no more glaring causes of deception for the public to complain of! Very few flowers admit of much manipulation. Your correspondent will never be led far astray by the pelargonium dresser; nor is the practice common with that flower. My friend and floral guide, Mr. Beck, made it an objection, in these pages, against Crusader, that it required that operation; an objection that proves the practice not to be general, or it would have no meaning. And he was so right, that I have since discarded that variety for the fault. In fact, no other flowers than those of the pink tribe require more preparation from the "milliner" than Philip Havapek would himself unconsciously perform upon a rose before he presented it to a young lady—namely, by depriving it of its thorns, and of whatever is dead and unsightly, or would detract from the beauty of the offering, and by presenting it in its most attractive form; and in the pink tribe, the practice must be judged of simply as a matter of competition before judges, like the modes of preparing cattle for an agricultural meeting, in which we consumers are no further interested than as it is a means by which the beef and mutton of the country in general is better than it used to be. The system is part and parcel, though a small one, of that adaptation of means to requirement, by which the old greenhouse, with its straggling unsightly stems, with here and there a spare blossom, has given place to a well-ordered collection of healthy and shapely trees, which, each in its turn, become masses of bloom in their season.—Iota (*The Florist.*)

The following remarks are from the pen of our friend Mr. Dodwell, of Derby:

"Allow me to offer one word in defence of the poor florist, and in vindication of his practice of 'dressing flowers,' impeached by Philip Havapek.

"Your correspondent denounces this as 'one of the most pernicious practices connected with floriculture.' He tells us, 'If he attends an exhibition, he is struck with admiration at the beauty of the pinks, or the picotees, or carnations; but if he becomes a purchaser, *do what he will*, they are mere mops.' I beg to tell him he is speaking most mistakenly, and wide of the fact. He never has done *what he could*, or he might have realised beauty equal to that which elicited his admiration.

"The evil he charges against the florist is simply due to his determined disinclination to give time and trouble to the attainment of those objects, from which, when attained, even he cannot withhold his admiration. Your correspondent might *grow* and *display* subjects equal to anything that has been *shown*; but he never will, so long as he hopes never to have the *inclination*. First-rate flowers, combining all possible beauties from *Nature's* hands, are indeed desirable; but I fear they are what your correspondent will never realise on earth; meantime, why does he object to that beauty which he tells us has excited in him so much admiration?

"The question lies in a nutshell; it is simply, Shall art be admitted to assist nature? If your correspondent negatives this, he will carry us back at once to the instincts of the savage, where most of us would decline to follow him; if he affirms it, he can show no reason why art should not be given to the *flower*, which is not equally applicable to the *plant*; a condemnation of the one is a condemnation of the other, and if valid, would apply to the splendour of the diamond, and every object of beauty art creates or enhances, and condemn all to remain in obscurity, because their beauty was conferred by the adventitious aid of man.

"This is the *rationale* of 'dressing flowers;' and the humble florist as correctly creates a beauty in his flowers, as does the sculptor when he gives to the shapeless stone the ideality of his genius. It may be desirable, in the case of new flowers submitted for opinion, that they be seen with all their faults as well as their perfections. This may be easily enforced —my remarks apply to the *art* of dressing, and I am sure, so long as art is known, there will be a propriety in its adoption."—*Midland Florist.*

DR. HOOKER'S SIKKIM RHODODENDRONS IN THE ROYAL GARDENS OF KEW.—A south aspected plant-house, formerly a vinery, contains an entire collection of these fine plants. Among them are strong plants of R. Campbelliæ, Argenteum, Maddeni, Aucklandiæ, and Lancifolium, and smaller ones of Thomsoni, Lepidotum, Edgeworthii, Niveum, Hodgsoni, Cinnabarinum, Falconeri, Ciliatum, and Glaucum, &c. Several plants of Ciliatum are in full flower, and are extremely handsome, each shoot terminating in from three to four blossoms, measuring upwards of an inch across the mouth, while the plants themselves are not more than eight inches high. Glaucum also promises to bloom this year, but none of the others. We may mention here, that most of the above varieties have been planted out in sheltered "nooks" of Rhododendron clumps along the side of the principal promenade, and that there they have all proved hardy, and Ciliatum is covered with flower-buds. Some are also planted among Ferns, in a cool damp house behind the Cactus-house, where they seem to succeed well; but they have failed planted out in a pit, which Mr. Smith attributes to the air being too dry and warm for them. Some of the large thin-leaved kinds, as Argenteum, become browned all along the margins of the leaves, from too dry an atmosphere; and it is a curious fact that this happened last summer at the same time, both in the house, in pits, and out of doors.

NEW GLOBE AMARANTHUS.—We have been shown a specimen of the new kind of Gomphrena, which the Messrs. Hovey have introduced, and an account of which may be found in the advertising sheet of their Magazine, and also a brief allusion to which is to be noticed in the Magazine for 1850 (XVI., p. 507), and in the "*Retrospective View of the Progress of Horticulture for* 1852," in the January Number for this year, on page 11. The specimen consisted, however, of little else than its terminal head; but from what we did see, we regret that our attention was not drawn to it sooner, and that we could not have seen it in a growing state. We think that it will recommend itself at once, as a new and richly-coloured annual, well fitted to our sunny and almost oriental summers. Mr. C. M. Hovey, who is most familiar with its form and habits, is inclined to consider it as a new species; and as he received its seeds from New Mexico, his opinion may prove to be correct. Should this be so, we think it proper to bestow upon it a name reminding us of those to whom so many in the community are indebted, through their commendable zeal in horticultural and floricultural pursuits, and the New Orange Globe Amaranth will be known as Gomphrena Hoveyi.—*J. L. Russell, Professor of Botany.*

ROSE MAGGOT.—Two years ago, on minutely inspecting the buds of my Rose-trees about the end of March, I observed some very small powdery matter about them, and on examining with a glass, I found a very small maggot in the bud; it occurred to me, that as there are side buds which come into growth when the main bud is accidentally destroyed, I should possibly get rid of one set of caterpillars by removing all the main buds; I did so on a large branch, leaving the rest of the bush to take its chance. On the back of many of the buds I found the little creatures busy at work. I noticed the denuded branch during the summer, and found my conjecture confirmed. New buds came, and the branch was covered with flowers uninjured, whilst the rest of the tree was very much infested; the only drawback was, that the Roses on the experimental branch came somewhat later. I repeated the experiment last year with the same result, and I make this communication in the hope that others may be induced to try the same mode of getting rid of one of our worst pests, as the plan has the advantage of extirpating, as far as it is practised, the propagation of the progeny. A quick hand, after the bushes are pruned, would soon clear a number of trees much quicker and very much better than could possibly be effected by hand-picking, when the mischief, in nine cases out of ten, is already irretrievably done. If any of your correspondents should try this mode, perhaps they will communicate their results.—*T. H., Stoke Newington.—Gardeners' Chronicle.*

SUMMER BEDDING PLANTS.—In our last Volume we described a number of the best bedding plants we had seen in bloom, and it now being the time of general planting out, we again remark upon some of the neatest and most showy.

ALYSSUM SAXITILIS VARIEGATA.—The plant is perennial, grows from six to nine inches high, flowers yellow. Verbenas, scarlet or purple, planted between, come into bloom when those of the Alyssum are over, and appearing just over the variegated foliage, have a pretty appearance up to the end of summer. *Variegated Sweet Alysson*, an annual, about the same height, with white flowers, and Verbenas between, is even handsomer than the preceding. *Variegated Scarlet Geraniums* (Mangles's), grown along with the purple or blue Verbenas, are handsome. *Lady Plymouth Geranium.* This is an hybrid of the odour of Rose Geranium section, having a beautiful variegated foliage, grows from six to nine inches high; the scarlet, crimson, and purple Verbenas along with it render it extremely handsome. The odour of Rose Geranium, having green foliage, and planted along with scarlet, purple, crimson, or bright rose-coloured Verbenas produces a very pretty appearance. We have tried all the above, and in a bed of a sort, are exceedingly beautiful. They have the appearance of what is very significantly applied, a piece of "shot silk." In the flower-garden at Kew Royal Gardens the Verbena Venosa was planted between Variegated Geraniums; the flowers are of a lilac purple; it had a pretty appearance, but not equal to the beds that had more vivid, rich, decided-coloured Verbenas.

CUPHEA PLATYCENTRA.—This forms a neat bushy shrub, from six inches to a foot high, and is a most profuse bloomer from May to November. Its beautiful tubular blossoms, scarlet with a black collar and white head, are exceedingly neat and pretty. Probably a few purple or blue Verbenas intermixed with it would form a pleasing variety of contrasted colours.

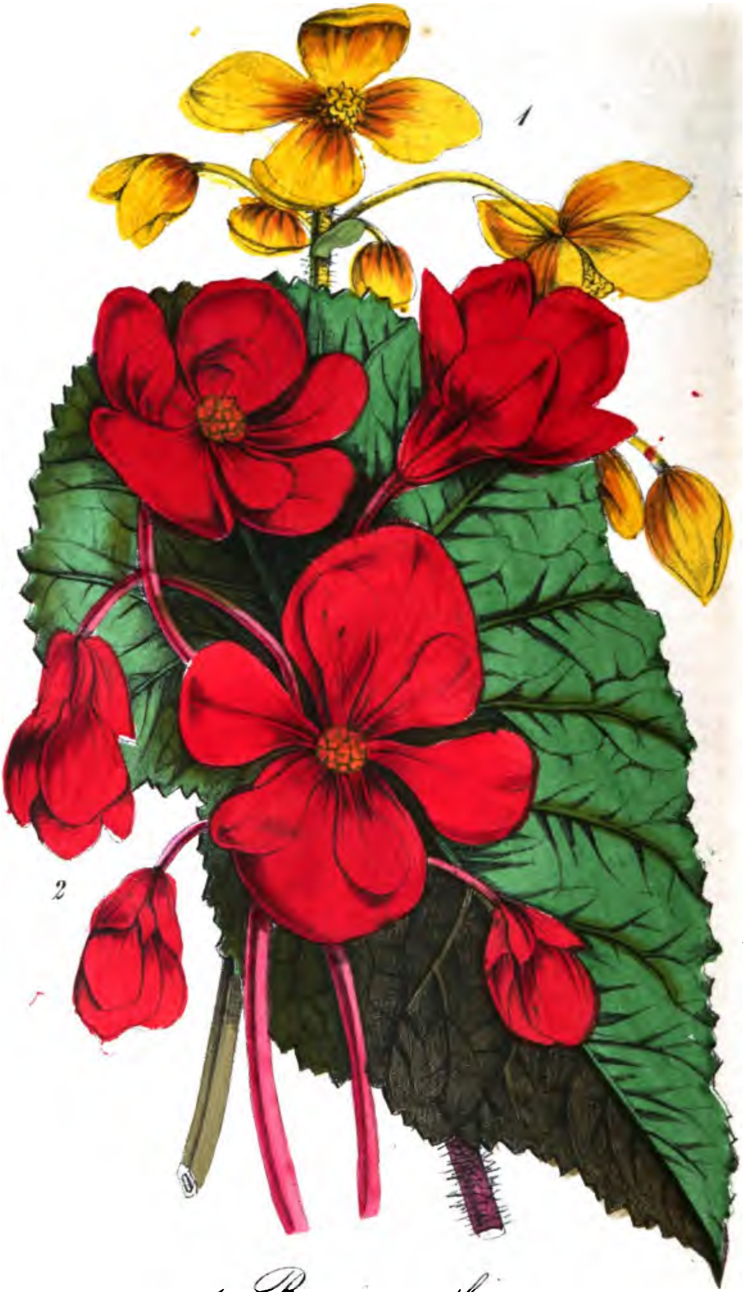
AGERATUM CŒLESTINUM, grows from a foot high, flowers light blue, produced in profusion.

HELIOTROPIUM CORYMBOSAM, about nine inches high, flowers white, a most profuse bloomer, the heads very neat and compact. This, grown in contrast with a well-filled bed of H. Voltaireanum, or Voltaire Nana, has a nice effect.

LOBELIAS.—The upright growing section form a splendid bed, growing a collection of the crimson, purple, scarlet, blue, white, lilac, rose, &c., together, the tallest kinds in the centre, and gradually declining to the side, which may be one of the trailing blue flowered, to form an edging.

FUCHSIAS.—Most of these will flourish in the open bed, but there are several now quite of a dwarf habit, growing nine inches to a foot high, which bloom in profusion, and admirably suited for beds. The flowers are of the section originating from the old F. coccinea, having crimson, or scarlet tube, and sepals, reflexing with a violet or other dark-coloured corolla. The following are suitable. The Pet, Lilliputian, Minima floribunda, and Darling. There are some of the GLOBE flowered, too, which do well, and are of dwarf habit, but they do not show the corolla sufficiently, with the exception of "Globosa magnifica;" it is, however, of stronger habit, but the flower is very large, and exhibits a large velvet-coloured corolla. It does well for the centre of a bed.

(*To be continued.*)



1. Begonia xanthina.
2. Begonia Prestoniensis.

FLORICULTURAL CABINET

JUNE, 1853.

ILLUSTRATIONS.

1. BEGONIA XANTHINA.—2. BEGONIA PRESTONIENSIS.

We do not recollect any other genus of plants which is of equal interest to that to which the beautiful kinds we now figure belongs. The blossoms of all its species and varieties are produced in a most graceful manner, and the diversity, too, which exists in their individual construction, is remarkably entertaining. They also continue in flower for a long period, and many of them bloom throughout the winter and early spring season, when flowers are additionally valuable. It is an additional recommendation, too, that the plants are readily grown, and easily increased.

Most public as well as private collections of stove or greenhouse plants contain one or more kinds of Begonias, but a general collection of them is rarely to be seen. The most extensive perhaps of any is in the Royal Gardens of Kew, where there are upwards of sixty species and varieties. We have frequently seen and admired them when in bloom, taken notes thereof, and the particulars have been inserted in previous Numbers of this Magazine.

Within the last few years several handsome and very distinct kinds have been introduced from other countries, or hybrids have been raised in our own; we refer more particularly to B. cinnabarina, having citron-coloured blossoms; B. hernandifolia, rosy-red blossoms; B. fuchsioides, scarlet flowers, and the white-blossomed variety. The striped-flowered B. rubro-venia, white streaked with red. B. Thwaitesii, with most beautiful foliage of green, deep red, purple, and violet colours. The one with *yellow flowers*, which we figure herein, viz., **Begonia xanthina**, is a valuable acquisition, particularly as to the *colour* of its blossoms. It was obtained from the Island of Boutan, in the East Indies, by Mr. Nuttall, of Rainhill, near Preston, in Lincolnshire, in whose garden it bloomed last summer.

However pretty and interesting the above and other species and varieties are, the "Begonia Prestoniensis," now figured, very far excels them all. Its *large* brilliant-coloured *fragrant* flowers, produced in *profusion*, render it one of the most handsome, elegant, and ornamental plants of its size we have ever seen, and certainly ought to be grown wherever practicable.

It was raised in the garden of E. L. Betts, Esq., of Preston Hall, near Aylesford, in Kent; and Mr. Frost, the gardener states, that "it was obtained by impregnating B. cinnabarina with B. nitida, which latter has imparted to it its very free flowering and *shrubby* habit." Messrs. Lucombe, Pince, and Co., obtained the stock of plants, and from them we received our specimen.

Having grown it for some time, those gentlemen state it succeeds well in the greenhouse, too, and the blossoms have the fragrance of a Tea-Rose. Some of the Begonias flourish when grown in the dwelling-room window, and the species B. nitida, from which the seed was obtained of B. Prestoniensis, is one that is often seen in the window; we think therefore that this new and brilliant variety will also flourish when placed there.

Having obtained such rich coloured Begonias, having flowers of a bright yellow, brilliant orange-scarlet, rosy-red, &c., by attention to impregnation with more of the light-flowered kinds, other beautiful, improved varieties, will be raised, amply repaying for any labour bestowed.

In the "Journal of the Horticultural Society," Part II., there is an excellent article on the culture of Begonias, &c., by Mr. Donald, formerly a foreman in the Gardens; he observes—

"In regard to their cultivation, I may mention that Begonias are all stove-plants, and that they enjoy a *moist* atmosphere of about 80 degrees in summer, with sufficient shade to break the rays of the mid-day sun. In winter, the atmosphere should be kept dry, especially in cloudy weather, and the temperature allowed to fall as low as 58 degrees. Although *B. Evansiana* and others will stand in a greenhouse, still even these species are much benefited by heat and moisture during the early part of the season. As to the soil most congenial to their nature, there appear to be various opinions. From experience, I am satisfied that *sandy loam* and *leaf-mould* are the two principal materials; and for the kinds that grow luxuriantly these should be used in equal proportions, with bits of pots or charcoal among the soil. For some species, such as *B. coccinea,* which are liable to damp off, the quantity of vegetable matter may be less, and the deficiency made up with silver sand. Damping, however, cannot altogether be attributed to soil, but must be ascribed to bad drainage, or to moisture when the plant does not require it.

"In preparing the pots, some prefer *small* potsherds for drainage: this, in my opinion, is almost as bad as using *sifted* soil; for if the crevices are small, they will be the more easily filled up. For an 8-inch pot, which may be taken as an average size for growing a specimen plant, the potsherds should not be less than three inches across; and if laid to the depth of two or three inches, and properly covered with pieces of turf, there will be no danger of the roots suffering from damp, if water is judiciously given.

"Begonias being in general plants of free growth, and delighting in *fresh soil*, it is necessary to repot them twice in the course of a year, viz., February and August; but this rule, like many more in gardening, is not without an exception: one plant may grow faster than another under the same circumstances, and therefore ought to be repotted when it requires it, nothing being worse for any plant than to cramp its roots.

"As Begonias are generally intermixed with other plants, and receive a similar supply of water, both in summer and winter, they may well present a sickly appearance. There are few plants that require a more liberal supply during summer than they do; indeed some of the robust growing sorts will flourish with their pots half immersed in water; but, like other plants, they require a season of rest, at which time comparatively little moisture is required. This period is clearly pointed out by nature. In October all the species with which I am acquainted begin to show that water should then be gradually withheld; if it is continued, some begin to drop their leaves, others to decay at the root, or assume a languid appearance: therefore it is obvious that they should be kept dry from the 1st of November to the 1st of February. During that time, if water is given once or twice a week it will be sufficient, and the herbaceous sorts may be kept quite dry. Although many species remain green and healthy in winter, the growth they make is but trifling, nor should they be induced to grow, for if they are deprived of the season which Nature has provided for their rest, the best of management will not compensate for it in twelve months afterwards.

"There are some who imagine that a bushy plant cannot be produced, unless it has been cut down in winter, or pinched back during the growing season; but this is a mistake. If *B. undulata*, or any of the fibrous-rooted sorts, which require pruning, are cut down in winter, the root will in all probability die, and if pinched back, when are they to flower? To such as *B. Evansiana* the knife is never required, because the stems die down annnually; and it is never necessary to cut such as *B. heracleifolia*: therefore this matter rests with the tall-growing sorts. To explain this it will be necessary to consider what functions such stems perform. Take *B. undulata* for an example: every stem of one year's growth, notwithstanding its flowering, is a magazine in which secretions are stored for the support, during a certain time, of those which may arise from its base the following season, and thus the stems become analogous to the pseudo-bulbs in Orchids; were not this the case, suckers would rise as strong without the stem as with it, and they would not be liable to damp off, although it should receive an injury. From this it is evident that all the pruning that is necessary is to cut out all the stems above two years old, and this should be done in spring, when the plant is repotted, in order to give room for the young shoots.

"As to propagation, perhaps few plants are so easily increased as Begonias. All those from which cuttings can be taken will strike freely under ordinary treatment, and such as *B. Barkeri*, from which cuttings cannot be had, may be abundantly multiplied from seed. The seed should be sown when gathered, in light sandy soil, and placed in a moist situation, where the seedlings may be shaded from the rays of the sun."

1*st.*—*Having stems erect, branching, not fleshy at the base, leaves oblique, ovate, acute.*

B. Fischeri.—Stems branched, from two to three feet in height, dark crimson, and marked with a few small white spots. Leaves oblique, about two inches in length, slightly toothed, dark green above, quite smooth, presenting a very silky appearance, bright crimson beneath, and singularly crossed with large green veins. Flowers blush-coloured, very small, and generally in threes. It blooms in spring.—*Brazil.*

B. rupestris.—Stems from two to three feet in height, small, but strong, of a brown colour when young, gradually becoming black, and resembling a bamboo in appearance. Leaves oblique, about three inches in length, waved at the margins, of a dark green colour, and beautifully marked on the surface with white silvery-looking spots. Flowers pink, generally produced in spring.—*Brazil.*

B. acuminata.—Stems somewhat slender, from three to four feet in height, rising in great profusion from the bottom, quite smooth, and very little swollen at the joints. Leaves oblique, about three inches in length, rather narrow, and very unequally serrated. In general they are of a lively green colour, tinged with crimson, especially the veins beneath, which are thinly covered with white hairs, extending down the footstalks. Flowers pink, in clusters of from eight to twelve blooms, springing from the axles of the leaves, or the upper part of the stems. It continues to bloom through the whole year.—*Jamaica.*

B. hirtella resembles *B. acuminata* in habit. Stems from three to four feet in height, quite smooth, and slightly striated. Leaves oblique, serrate, from two to three inches in length, of a shining pale green colour, and hairy on both sides. Flowers almost white, in small clusters, generally produced towards the top of the stems. It blooms during the summer months. Syn. *B. acuminata.*—*West Indies.*

B. Martiana.—Stems herbaceous, from three to four feet in height, a little swollen at the joints, of a pale green colour, and marked with a few short white streaks. Leaves oblique, from two to three inches in length, unequally toothed, and covered with a glaucous bloom. Flowers pink, generally in pairs, but in great profusion. This very showy species blooms during the summer and autumn months. Syn. *B. diversifolia.*

B. incarnata.—Stems about four feet in height, swollen at the joints, quite smooth, and marked with a few short white streaks. Leaves oblique, about six inches in length, dark green, waved at the edges, and thinly set with short hairs on the surface and margins. Flowers pink, in clusters of about sixteen blossoms, suspended on footstalks about four inches in length. Blossoms throughout the season.—*Mexico.*

B. zebrina.—Stems strong, from three to four feet in height, channelled, of a dull crimson colour when young, and marked with a few pale green streaks. Leaves oblique, about six inches in length, bright green on the surface, beautifully marked with dark green shades underside; smooth and shining. Flowers pink, in clusters, suspended by rather short footstalks. Syn. *B. undulata.—Brazil.*

B. Evansiana.—Stems herbaceous, from three to four feet in height, enlarged at the joints, which are of a bright crimson, in other parts they are of a pale green colour. Leaves oblique, from five to six inches in length, dark green on the surface, and red beneath. Flowers pink, produced in loose panicles, which continue in beauty from May to September. A common species often to be found in great perfection in the window of the cottager. Syn. *B. bulbifera, B. discolor.—China.*

B. undulata.—Stems about three feet in height, gradually tapering towards the top, seldom branching the first year, of a pale green colour, quite smooth, and marked with short white streaks. Leaves oblong, from four to five inches in length, waved at the edges, pale green, smooth and shining on both sides. Flowers white, in large clusters, hanging down from the upper portion of the stems. It blooms in autumn.—*Brazil.*

B. argyrostigma.—Stems from three to four feet in height, of a dull green colour, quite smooth, and marked with numerous narrow white streaks. Leaves oblique, about eight inches in length, dark green, quite smooth, and singularly blotched on the surface with silvery spots. Flowers almost white, produced in loose clusters, suspended by rather slender footstalks, generally from four to five inches in length. It blooms in spring and summer. Syn. *B. maculata, B. punctata.—South America.*

B. odorata.—Stems about three feet in height, of a pale green colour, faintly striated, and tinged with crimson at the joints. Leaves oblique, about eight inches in length, bright green, quite smooth and shining, especially on the under side. Flowers pure white, in large clusters, suspended on rather slender footstalks, generally on the upper portion of the stems. Syn. *B. suaveolens, B. sinuata.* It blooms during the spring months.—*South America.*

B. sinuata.—This is closely allied to *B. odorata;* the stem, leaves, and even the flowers appear to be very much alike in both species, and both bloom at the same season; but it differs from *odorata* in having the veins on the under sides of the leaves, and also a portion of the footstalks, slightly hairy. Syn. *B. odorata.—South America.*

B. nitida.—Stems woody, long, and straggling, requiring a trellis to keep them up, and generally becoming bare at the bottom. Leaves oblique, from five to six inches in length, of a bright green colour, and smooth on both sides. Flowers pink, in clusters of from twenty to thirty blooms, suspended by footstalks about ten inches in length.—*Penang.*

B. aptera. Very like *B. odorata,* except in the stems, which are quite green, and apparently more disposed to branch. Leaves oblique, about six inches in length, quite flat, and rather long pointed; of a bright green colour, smooth and shining. Flowers white, and produced in graceful clusters, similar to those of *B. odorata.* Like the preceding it blooms during summer and autumn.

B. laurina.—Stems very strong, about four feet in height, branching, green when young, and marked with a few white spots. Leaves oblique, about two inches in length, beautifully serrated, dark green, and smooth on both sides. Flowers pink, in rather small clusters, but suspended in a graceful manner from the lateral branches. This, with the two preceding, blooms during the summer months.

B. sanguinea.—Stems about three feet in height, of a dull crimson colour, and quite smooth. Leaves oblique, about six inches in length, dark green above, bright crimson beneath, and smooth on both sides. Flowers almost white, produced in clusters of from twenty to thirty blooms suspended on footstalks from four to six inches in length. It blooms in summer and autumn.—*Brazil.*

B. coccinea.—Stems from two to three feet in height, quite smooth, of a dull crimson colour, and marked with a few pale green streaks. Leaves oblique, about six inches in length, glaucous, and green on both sides. Stipules large, of a pale green colour, and membranaceous. Flowers bright scarlet, in loose panicles, rising from the axles of the leaves towards the top of the stem. Syn. *B. rubra.*—*Brazil.*

B. ulmifolia grows about three feet in height, branched, of a pale green colour, and thinly covered with short hairs. Leaves ovate, about three inches in length, serrate, pale green, and hairy on both sides. Flowers blush-coloured, in little clusters, suspended by short footstalks from the upper portion of the stem. It blooms during summer and autumn.—*South America.*

B. castaneæfolia.—Stems branched, slender, somewhat swollen at the joints, of a dull green colour. Leaves ovate, about an inch and a half in length, serrate, pale green, and smooth on both sides. Flowers blush coloured, borne on short spurs which are produced in autumn. Although this species flowers only in spring, and then not in such profusion as many others, still it possesses a neat habit, which renders it a desirable addition even to a small collection.—*Brazil.*

Leaves ovate, obtuse, often equal at the base.

B. semperflorens.—Stems almost herbaceous, of a pale green colour, and between two and three feet in height. Leaves about two inches in breadth, nearly round, differing very much from the usual oblique form, bright green, smooth and shining on both sides. Stipules rather large, often adhering to the stem after the leaves have dropped off. Flowers pure white, in short panicles, rising from the axils of the young leaves. This is a very pretty species. Syn. *B. Hookeri, B. spatulata, B. grandiflora.*—*Mexico.*

B. cucullata.—Stems from two to three feet in height, smooth, of a dark green colour, and slightly tinged with purple at the joints. Leaves oblique, quite blunt, from three to four inches in length, dark green, and smooth on both sides. Stipules very large, fringed, and of a pale green colour. Flowers resemble those of the preceding species, and it also keeps in bloom the greater part of the year. Syn. *B. spathulata, B. semperflorens, B. grandiflora.*—*Brazil.*

(*To be continued.*)

NOTES ON NEW OR RARE PLANTS.

Cœlia macrostachya (Long-spiked), a stove Orchid-Epiphyte from Mexico, which has bloomed in the Belfast Botanic Garden.—The pseudo-bulb is large, almost globe-shaped; the leaves are a foot or more long, similar in form to those of a Bletia. The flower scape is about nine inches high, bearing a dense spike or raceme of flowers, about the same length, of a rosy-red colour. Each blossom is about three parts of an inch long, very interesting and handsome. (Figured in *Botanical Magazine*, 4712.)

Puya Chilensis (Synonyme, Pitcairnia coarctata).—A very striking Bromeliaceous plant, from North Chili, which is grown in a cool stove in the Royal Gardens of Kew. The stem has now attained the height of four feet, crowned with its head of long leaves, which are four feet long, spined. The flowers are produced in a compound (branching) terminal spike. The flowers are large, and the three broad sepals form together a bell-shaped blossom, about three inches long. (Figured in *Botanical Magazine*, 4716.)

Sandersonia aurantiaca; *Golden-flowered*.—John Sanderson, Esq., the Honorary Secretary of the Horticultural Society of Natal, discovered this very pretty flowering plant near Pietermaritzberg, Natal. He made a faithful drawing of this, as well as other plants he discovered, and a portion of what he became possessed of were sent to the Royal Gardens of Kew. The Sandersonia aurantiaca belongs to the Liliaceæ, having two lobed tubers. The flowering stem is erect, a foot to half a yard high, and about as thick as a crow's quill, bearing several beautiful orange-coloured flowers; they are drooping, subelobose, bell-shaped. Each blossom is about an inch long, and three parts of an inch across, having a long footstalk. In habit it is much like the Fritillarija group, and its blossoms somewhat like those of the Fritillary in shape. It is very beautiful, and will be much admired. (Figured in *Botanical Magasine*, 4716.)

Siphocampylus Orbignianus.—It was discovered in Bolivia, South America, by D'Orbigny. The stem grows from three to four feet high, somewhat straggling; the flowers are nearly erect, about two and a half inches long, yellowish, tinged on the back with red. It requires to be grown in the stove. (Figured in *Botanical Magazine*, 4713.)

Mitraria coccinea.—A fine bushy plant, is in beautiful bloom in the greenhouse of the Royal Gardens of Kew. It has numerous blossoms, each tubular flower near two inches long, of the richest bright scarlet colour, are exceedingly showy, and the graceful pendant manner in which they are borne adds to its beauty. The Mitraria merits a place in every greenhouse, and in warm dry situations in every garden. It is a most charming, shrubby, neat-growing, handsome flowering plant.

The following beautiful plants, too, are now in bloom in the Royal Gardens:

Dilwynia grandis sanguinea.—It is an erect-growing plant, with heath-like foliage; but having had its erect shoots duly stopped, it forms a nice bush. The flowers are of an orange colour, with a red keel; each blossom a third of an inch across, produced in vast profusion. (G. for Greenhouse.)

CHOROZEMA HENCHMANNII.—This plant grows erect, and naturally becomes naked; but when due attention is paid in cutting off the leads, it forms a charming bush, and blooms most profusely. Its rosy-carmine blossoms, with their yellow eye, render such bushes very ornamental. Plants half a yard high, and as much across, are charming objects.

CHOROZEMA VARIUM, and C. cordatum, similarly treated as the above, and forming such sized bushes which are very suitable for a greenhouse, not taking up too much room, and in profuse bloom, are very handsome. G.

BORONIA MICROPHYLLA.—A neat bushy plant, half a yard high, having very pretty, delicate, pinnate foliage. It blooms very profusely, each flower half an inch across, white tinged with lilac. Grown in contrast with the bright rose, pink, and red-bloomed kinds, it is very pretty. G.

DRACOPHYLLUM CAPITATA.—The long wire-like shoots, having very short scaly-like leaves, have a singular but pretty appearance, and are easily twined round four or more sticks, or round a tubular-shaped wire frame. A brush is formed around some sticks, half a yard high, and each of the numerous shoots is terminated with a fine head of numerous snowy-white flowers. It is very pretty, and in contrast with the rich colours of others has a cheerful effect. G.

BORONIA, a new species.—The foliage is prettily pinnate, and the fine rosy-purple flowers are borne numerously along the shoots, forming spikes about nine inches long. Each flower is three parts of an inch across. A neat and handsome plant. G.

DILWYNIA FERRUGINEA.—By attention to stopping the shoots, it forms a neat bush, two feet each way. Each flower is three parts of an inch across, of a bright golden-yellow, and, produced in profusion, renders it very ornamental. G.

DILWYNIA SULPHUREA.—It has pretty heath-like foliage, and the flowers are of a deep sulphur colour, produced numerously in long spikes, terminating with a green shoot an inch long beyond the blossoms. G.

CHOROZEMA DICKSONII.—It had been formed to a neat bush, and was a profuse bloom. The flowers are of an orange buff, with a yellow eye, and dark crimson keel. Each blossom three parts of an inch across. Very pretty. G.

TROPŒOLUM LOBBIANUM, trained like a bush two feet and a half high, was profusely in bloom in the greenhouse; its rich orange-scarlet flowers were very ornamental. Tropœolum Hockervanum has larger flowers, and a profuse bloomer, of similar habit to the former; both deserve a place in every greenhouse, or outdoors in summer.

PROSTRANTHERA LASIANTHUS.—A neat shrubby plant, somewhat like a narrow-leaved cistus. It is a profuse bloomer, each blossom being near an inch long, tube-shaped, in the way of Peutstemon campanulata, white, spotted with lilac, and being produced in terminal panicled spikes renders it very handsome. G.

CALYTHREÆ VIRGATA.—A neat bushy plant, with small heath-like foliage. The flowers are produced in long spikes, as well as in terminal heads, white. Each blossom is in form and size like one of the well-known Saxifraga (London Pride), and has a quantity of its central (thread-like) filaments, similar to a wild Hypericum blossom. It is neat and pretty. G.

DIPLOPAPPUS FRUTICULOSUS.—It is a neat bushy plant, two feet high, having heath-like foliage, and a profusion of Michaelmas Daisy-shaped flowers, which are blue at first, and change to a rich purple. Each blossom has a yellow centre of anthers, and the blossom is three-parts of an inch across. G.

LILIUM GIGANTEUM.—We saw this truly noble plant in bloom at Messrs. Veitch's (late Knight and Perry's nursery), of King's-road, Chelsea. The plant was six feet high, and the stem eight inches in girth at the bottom part, and of a proportionate stoutness to the summit. The flowers are about six inches long, white with dark crimson inside. It is really a magnificent species. The leaves are heart-shaped, about fifteen inches long and ten broad. In a shady stove this and several other stately plants were growing in a most vigorous condition.

The following comprises new or rare plants, shown at the exhibition at the Horticultural Society's Gardens on May 14th.

APHELANDRA (New Species).—Mr. Van Houtte sent this handsome plant. The leaves are of a bright green, and on each side of the midrib there are alternate white bars. Each leaf is six inches long, about three broad, very beautiful.

RHODODENDRON AUREUM SUPERBUM.—Flowers a clear primrose, spotted with deep orange, produced in large heads; each blossom two and a half inches across; very fine.

R. DELICATUM.—Flowers pale flesh colour, spotted with orange. Each blossom three inches across; very fine.

R. GIBSONII.—This plant was six feet high and four across, covered with flowers, which are white, slightly tinged with blush. The blossoms are of neat form, almost like one of the best shaped flowers of the Canterbury Bell.

R. PRIMULUM ELEGANS.—A little lighter sulphur colour than aureum superbum, but beautiful.

R. JENKINSONII.—Flowers a pale blush, spotted with deep orange; very pretty.

R. AUREUM.—Buff, spotted with yellow; very pretty.

Mr. Appleby, of Uxbridge, showed six standard plants of **DEUTZIA GRACILIS**, four feet high. The branching heads were drooping, and as full of bloom as it appeared possible for them to be. We saw a quantity of similar plants at Messrs. Veitch's, but we did not admire them so grown in either instance.

Bushes of them have a much better appearance, we think. It is a most lovely plant, covered with its snow-white flowers. It has a pretty effect.

Geranium Boule de Neige.—A white flowered horse-shoe leaved variety. The blossoms are nearly round in form, white, with a slight tinge of flesh-colour sometimes.

Fuchsia, purple perfection.—Tube and sepals crimson, corolla a rich purple. It is one of the reflexed kinds; very handsome.

F. Duchess of Lancaster.—This tube and sepals waxy-white; corolla a beautiful rosy-carmine, tinged with violet. The flowers reflex well. It is an elegant variety.

F. Premier.—Flower large, of the dark class; sepals and tube of a rich dark crimson; corolla of a deep plum-purple; reflexes well, and is an excellent variety.

Cinerarias.—There were but few new ones of much merit. *Symmetry,* white, laced with lavender, is very pretty. *Lady Hume Campbell* (not new), white, with a neat blue edging, is very pretty. *Exquisite,* white, with crimson margin; very showy. *Amy Robsart,* a self-coloured rosy-purple, very showy and distinct. *Rosalind,* white, tipped with purple, and a drab-coloured disc (centre); very pretty. *Loveliness,* rosy-crimson, with a pure white ring around a carmine disc; very pretty.

Azalea Rawsonii,—This is the best of all the purple-coloured. Its form is good, and it makes a fine contrast with the fiery coloured, whites, &c. *Parsonii,* a light purple; pretty. *Iveryana,* a *large, fine shaped flower,* white, striped with carmine, and a most profuse bloomer. This ought to be grown in every greenhouse. *Broughtonii,* a stout and large flower, of a salmon pink, beautifully spotted with dark. *Aurora,* scarlet, very showy. *Vittata,* white striped, and spotted with violet.

Epacris Eclipse.—A seedling, shown by Messrs. Veitch; bright scarlet, with a white tip; very pretty.

Polygala cordata.—This forms a dwarf bushy plant, two feet high, and is covered with its pretty "blue, white, and black" flowers.

Friesia peduncularis.—A neat dwarf shrubby plant, from Van Diemen's Land. The flowers are white, and have much the resemblance of those of the Lily of the Valley. This was shown by Messrs. Lee, of Hammersmith.

Tetratheca ericifolia.—Very neat (as is the well-known T. violacea). The flowers are of a pretty lilac colour; nice plants for the greenhouse.

Pelargoniums.—There were some collections of both sections shown, and a few new ones; but the next exhibition being the time of their grand display, we omit remarks on these till next month's Magazine.

Orchid plants were most numerous, and extraordinarily magnificent. We have not space at present to give particulars. The kinds were what are generally exhibited.

Forced Roses were extraordinary fine, some of Messrs. Lane's being about six inches across. The kinds shown we will give next month. They were such as Giant de Batailes, Duchess of Sutherland, Coupe de Hebe, &c.

Geranium Floribundam.—The flowers are white, with a small blotch, and produced in vast profusion, forming a sheet of bloom. It is an excellent bedding plant.

Streptocarpus biflorus.—Plant similar in appearance to S. rhexii, but a more free bloomer, and the flowers double the size of the latter. They are produced, too, in pairs on each stem.

Lilium giganteum.—It stood out of doors last winter in Devonshire, where (at Messrs. Veitch's) they had seventeen degrees of frost, and bulbs in the ground are *now* pushing freely.

Berberis Darwinnii.—This most beautiful, profuse blooming plant has proved quite hardy in every part of the country during the past winter. In the conservatory at Messrs. Veitch's, of King's-road, we saw a dense bush, four feet high and five across, crowded in every part with its lovely blossoms. It ought to be grown in every shrubbery.

THE INSTRUCTIVE VALUE OF THE STUDY OF FLOWERS.

BY MR. PETER MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

The best of mortals may receive useful instruction from the study of flowers. They afford subjects for contemplation for minds that are most highly cultivated; and the child of a few months old is delighted with their appearance. Even in the study of a simple blossom, we may observe striking marks of God's skill and goodness. Fuller tells us in what way we should look upon the flowers. "A flower," says he, "is the best-complexioned grass, and daily it weareth God's livery, for he clotheth the grass of the field. In the morning, when it groweth up, it is a lecture of Divine Providence; in the evening, when it is cut down and withereth, it is a lecture of human mortality."

It has also been remarked, If in the long and sombre months of winter our love of Nature, like the buds of vegetation, seems cold and torpid, yet like them it unfolds and reanimates with the opening year, and we welcome long-lost associates with a glowing cordiality, as friends in a foreign clime; and then what a rich and varied succession is it ours to enjoy!

"Fair handed Spring embosoms every grace,
Throws out the snowdrop and the crocus first,
The daisy, primrose, violet darkly blue,
And polyanthus of unnumber'd dyes,
The yellow wallflower, stain'd with iron-brown,
And lavish stock that scents the garden round,
From the soft wings of vernal breezes shed,
Anemonies: auriculas enrich'd
With shining meal o'er all their velvet leaves,
And full ranunculus of glowing red.
Then comes the tulip race, where beauty plays
Her idle freaks;
No gradual bloom is wanting, from the bud
First-born of Spring, to Summer's musky tribe,
Nor hyacinth, of purest virgin white,

Low bent, and blushing inward, nor jonquil
Of potent fragrance; nor narcissus fair
As o'er the fabled fountains hanging still,
Nor broad carnations, nor gay spotted pinks,
Nor shower'd from every bush the damask rose,
Infinite numbers, delicacies, smells,
With hues on hues, expression cannot paint
The breath of Nature and her endless bloom."

One remarks, that it may be justly questioned whether works of art, however rare and splendid, can yield for any length of time the pleasure which is continually excited by the renovation of flowers in the spring. When they come up with the smiling faces of old friends, and seem to look cheerfully on all around, how many feelings and ideas are associated with them! Pure and innocent as themselves, they are the just objects of infantine regard; they offer to the youthful mind a never-failing resource of rational enjoyment; they are cheering in old age, and yield a calm and elegant satisfaction, which pleases without agitation, and has a beneficial effect upon the health and mind. The old man who walks abroad in a fine spring morning, when the air is fresh and the flowers are opening to the sun, feels his spirit renovated, and his heart expands with joy. The productions of the woods and hedges remind him of those which he has gathered with companions who have perhaps long since departed. Something of melancholy feeling may be connected with the recollection of them, but it is a melancholy which bids fair to render the heart better. He recalls to mind the seasons in which he has seen them bloom and fade around him, and they appear as so many emblems of his own mortality. He may sigh to think that "all flesh is as grass, and the goodliness thereof as the flower of the field," yet they still remind him, that as the loveliness of Nature is restored by the breath of the vernal season, so shall the dead arise from the winter of the grave to light and immortality. He remembers that there is a country which the sacred writers compare to a garden, watered by the river of life, and producing a tree whose fruit shall never fail, in which the unfading flowers of kindness, benevolence, and piety, transplanted from the bleak and churlish atmosphere of this lower world, where even now they bring forth abundant fruits of refreshment and consolation, shall blossom for ever with their beauty undiminished, and their lustre unimpaired.

Well may we say what another has done before us, What a desolate place would a world be without a flower! It would be a banquet without a welcome, a face without a smile, a firmament without a star. But happily such a world is not ours, and the love of flowers seems a naturally implanted passion, without any alloy or debasing object as a motive. Truly indeed does Cowper say,

"That man immured in cities still retains
His inborn, inextinguishable thirst
Of rural scenes, compensating his loss
By supplemental shifts, the best he may,
The most unfurnish'd with the means of life,
And they that never pass the brick wall bound
To range the fields and treat their lungs with air,

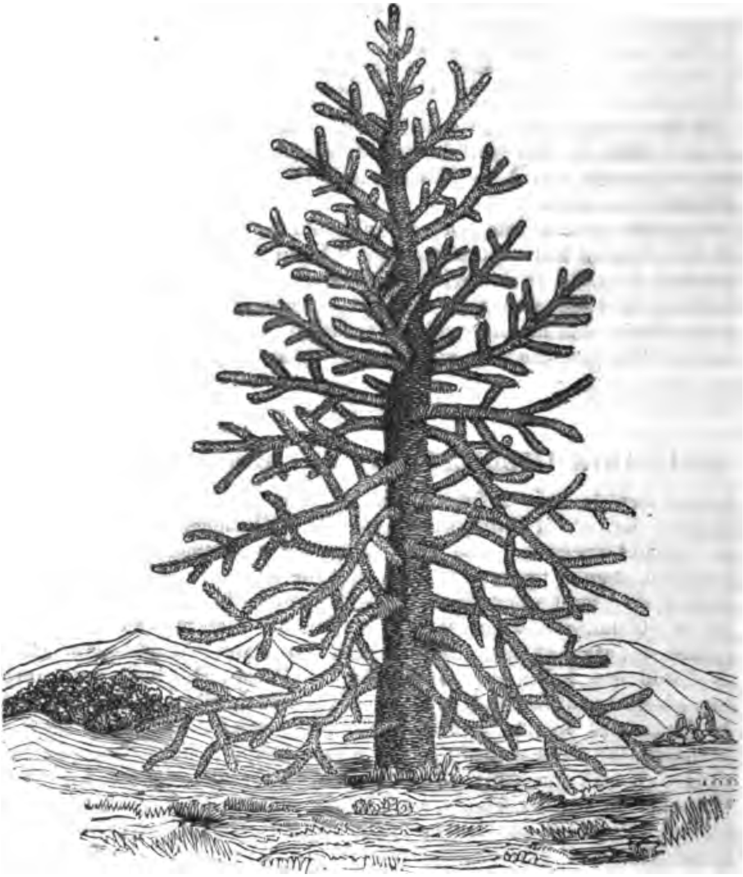
> Yet feel the burning instinct: overhead
> Suspend their crazy boxes, planted thick,
> And water'd duly, there the pitcher stands
> A fragment, and the spoutless tea-pot there,
> Sad witnesses how close pentman regrets
> The country, with what ardour he contrives
> A peep at Nature when he can no more."

In conclusion; when an individual is enabled by the light of science to study flowers, they will be found to be surpassingly rich in instruction, admirably fitted to fill the mind with ennobling thoughts and delightful emotions.

Scientific attainments, we are told, aid us in ascending, by means of the ladder of Nature, towards that "Light inaccessible" in which the glorious Jehovah ever dwells; and constrains us to join the celestial company in their rapturous anthem, "Thou art worthy, O Lord, to receive glory, and honour, and power, for Thou hast created all things, and for Thy pleasure they are and were created."

ARAUCARIA IMBRICATA, *Pavon.* *(Chili Pine or Araucaria).*

ARAUCARIA is derived from ARAUCOS, a name applied to the natives of those districts of Chili where the tree is indigenous. This noble tree is, without exception, the greatest ornament amongst conifers. Its beautiful, regular pyramidal form, and the sombre green of its foliage, command general admiration. It is indigenous to southern Chili, from 35° to 60° latitude, where it is found on the western declivities of the Andes mountain-chains, often reaching the snow-line, and never 1,500 to 2,000 feet below it. According to Pavon, the male tree never exceeds 40 to 50 feet in height, while the female often attains 150 feet. It forms vast forests, and in such has a pillar-like trunk, clear of branches for three-fourths of its entire height; but when standing single, it will probably be clothed with branches from the base. Branches in regular whorls, by 8 to 12 in the lower, gradually diminishing in number and length to the summit, thus forming a beautiful pyramidal cone. They spread horizontally, when young, rather ascending in a curved manner near the top. The lower ones, on account of their length and weight, rather pendent, but with their extremities curved upwards. Leaves 1¾ inch long, ovate-lanceolate, sessile, stiff, straight, mucronate, in whorls of 7 to 8, imbricated, smooth, shining, deep-green, entirely clothing the branchlets. They also remain on the body of the larger branches and upper part of the stem, and in young trees the whole trunk is covered with them, though more apart, turned back, closely lying to the stem, as the tree increases in circumference. Cones 6 inches long, globular, egg-shaped, dark-brown, with scales beautifully imbricated, and produced on the extremities of the boughs. One tree has often 20 to 30 cones, each containing 200 to 300 seeds, which are 1 to 1½ inches long, wedge-shaped, brown, edible, and constitute almost the sole subsistence of the natives of the district. In its native habitats it is generally found growing luxuriantly in soils with a



rocky substratum, where kept moist by rains and falls of snow. In this country, a deep, dry sandy loam seems to be its favourite soil. It is remarkable for its huge, long, serpent-like spreading roots, often 2 to 3 feet thick, which lie over the rocks. The wood is hard and durable, yellowish-white, fibrous, and beautifully veined; capable of receiving a high polish, and easily to be worked. It is used for ship-building, but is rather too heavy for masts. Yields a resin, applied to medical purposes, while a spirituous liquor is extracted from the seeds, which are also preserved, or, after being boiled and dried again, reduced into flour. Independently of its great value as a timber-tree, and other excellent qualities, in its native country, it cannot be enough appreciated in Britain for its hardiness and ornamental appearance; and no plant can be used with greater effect in distinguishing particular spots of country appropriated to art. It should be on every gentleman's lawn: it is both elegant and unique; and if sheltered during frosty weather, so as to keep off that rustiness of colour which a free exposure to the seasons brings with it, it will well repay the trouble in spring time.

With regard to what is the best mode of propagating this tree, there is but one opinion—raising from seeds. Bottom heat is invariably recommended; and the seeds should be inserted to the depth of about 1¼ inch, in large boxes or pans filled with free loamy soil, which should on no account be allowed to get dry. When two years old, they should be transplanted into nursery lines, in a warm sheltered situation, in the open ground, carefully guarding them from excess of moisture, and, in frosty weather, from excess of cold. Those raised in hot-houses, greenhouses, &c., certainly look better; but when planted in their final situation, in exposed places, the former soon take the lead. Planted by the seaside in Norfolk, they have made shoots about 1 foot in length in one season.

GLOXINIAS, THEIR TREATMENT, WITH A LIST OF A FEW OF THE CHOICEST.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

Of the vast number of stove and greenhouse plants now cultivated, there are but few possessing more beauty and variety than *Gloxinais*, and I think there is not another genus of plants that gives us so much of their beauty as *Gloxinias* do. They are easy, too, of cultivation, which is an additional recommendation. I shall here give some plain particulars how they may be cultivated to that perfection they are capable of, their period of blooming, with other matters concerning them, and a list of a few of the best kinds, with their colours, to enable readers who would wish to form a collection to select therefrom; and those that have a small collection, and wish to add to the same, they will find the varieties undermentioned to give the greatest satisfaction.

Of the soil best adapted for Gloxinias, there has a great deal been said and written; the fact is, most gardeners have their own little way of mixing the soil, some liking it rough, and others fine, &c.; but they will be found to succeed best in the compost I now describe. *Supposing the bulb is about the size of a filbert nut,* a pot forty-eight-sized, must be used for the first potting, and the compost to consist of one part leaf-mould, one part hazel-loam, and two parts peat,—the whole to be mixed well together, and to be used in a moderately rough state. A sprinkling of sand may be used, to keep the soil free. In potting, use clean pots; and the *crocks to be clean too,* as nothing is of more importance in the growth of most plants than thorough good drainage. After the plants are ready for another shift, which may easily be ascertained by the roots having filled their first pot, they must be shifted into twenty-four-sized pots, using for compost as follows:—One part leaf-mould, one part hazel-loam, one part peat, and one part rotten-dung from an old melon bed. Let the above be mixed well together, and used in as rough a state as possible, along with a sprinkling of sand to keep it open. After the roots have filled the pot, they may still have another shift; and when large plants are required for exhibiting, or for show in greenhouse, the pots used for this potting must be sixteen-sized. The compost too for them must consist of one-third hazel-loam, broken in lumps, and one-third rotten dung from an old melon bed, to be well mixed, and used as rough as possible. In potting for the first shift, let the soil be pressed but little; in fact, in all the various pottings the soil should be but just pressed moderately tight, as the frequent watering will enable it to sink sufficiently close together. After the plants are potted they should be kept in the warmest part of the stove, and kept very close for a few days to start them in fresh growth, which may be discontinued and the plants put in a place where they will receive a little air by day. When rotted sufficiently strong in the fresh mould, and as they advance in growth, especially before they bloom, and while in bloom, they must be occasionally watered with *weak liquid manure*, which will greatly strengthen the colour of the flowers. As the shoots get long, which in some varieties they are apt to do, they must be pegged down with care *on the soil on the pot*, and they will form fine dwarf heads, and bloom profusely. No other remark on them is necessary while in bloom, as they merely require to be watched to see they do not suffer from want of water. When the plants have done blooming, watering should be entirely dispensed with, and the pots be placed in some dry situation on a shelf, in a shed or greenhouse, where they should remain for about two or three months, quite dry. When the season for potting arrives, they may then be turned out of the pots they have been resting in, and repotted in twenty-four-sized pots, in the compost recommended, shifting them as they advance in growth, as before stated. When varieties are purchased first from the nursery they are generally received in sixty-sized pots, they should be shifted into forty-eight-sized.

THE TIME OF POTTING. That depends on the time they are required to bloom; viz., if required for exhibition purposes, they must be started to meet the time as near as possible. Now "*for a guide.*" Supposing plants were required in bloom in June, the old bulbs should be turned out of the pots they have been resting in about January; potted, and be kept warm; and being kept growing, in June they will be in fine bloom, and they will continue in beauty the whole of the summer, and form one of the principal attractions in the greenhouse or conservatory.

The following are a few good varieties:

Marie Van Houtte, white and carmine, blotch a fine large flower.

Napoleon, carmine-red and white.

Petoniana, white, with crimson-throat, fine flower.

Alba Grandiflora, pure white, very fine.

Argryostignia Splendens, deep-purple with a fine white throat, and the foliage beautifully striped; a fine variety.

Barrone de Vriere, mottled lilac.

Carminata Splendens, fine rich crimson, large flower.

Daphne, pink, edged with white.

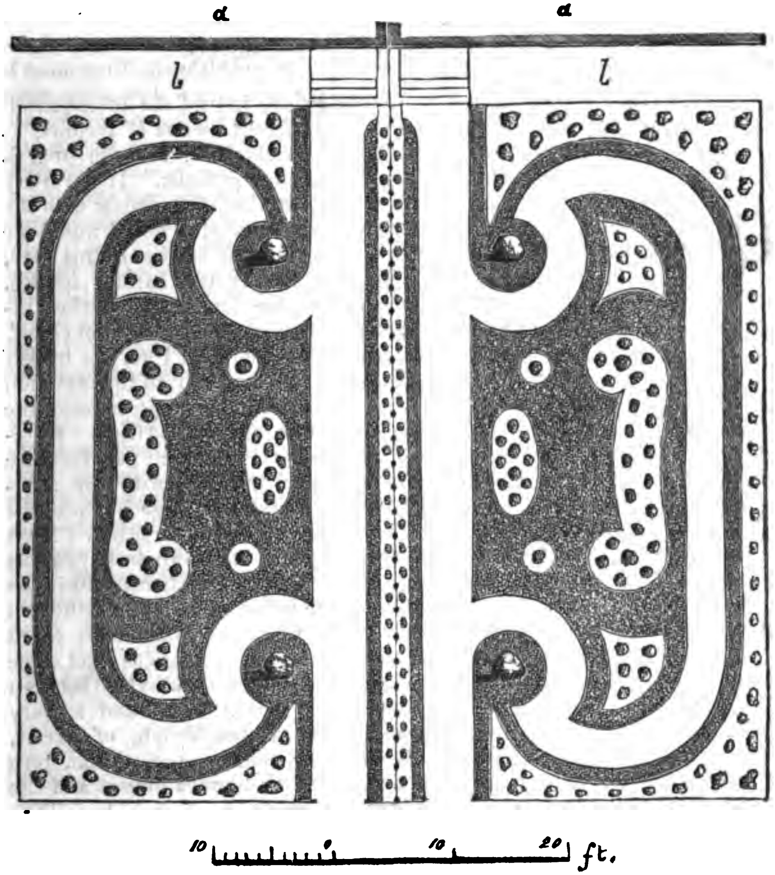
Godfrroi de Bouillon, fine blue.

Grandis, blush, with carmine throat.
Madam Malibran, bright-rose, fine.
Spectabilis, fine large purple flower.
Victoria Regina, lilac blush, with intense purple throat.

The above list embraces some of the best, and merits a place in every collection. For a larger collection other beautiful distinct varieties may be obtained, there now being one hundred and forty kinds in cultivation.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 6.



When houses are in pairs, with the entrances close to each other, and the front gardens separated by a dwarf fence, such as may be overlooked from the approach-walks to the houses, I am inclined to prefer laying out the frontages similar to each other, as seen in the above design, and which I lately adopted at the front of two houses recently erected. The clumps, as indicated, are on grass, and the walks have grass verges round against the borders. The four small round clumps are embellished with ornamental basket-work. The effect of the designs being similar is, that it renders them more pleasing to the eye, and more complete as a whole than if they were varied. The case would be different if the fence between the gardens was sufficiently high to exclude the view from each other. In the design, *a a* represents the houses; *b b*, the areas.

MISCELLANEOUS SECTION.

Hybrids.—Your remarks on hybridizing, induce me to inquire if any experiment has been made with the different species of lychnis, as I think a race of singular beauty might be obtained, between fulgens or coronata and the old hardy scarlet of our gardens. If a variety could be raised, combining the robust constitution of the latter with the large blossoms of the former, I think the successful florist would be well rewarded for his pains. Such an experiment has been, this year, attempted in my conservatory; but not having the hardier species, chalcedonica, in my garden, coronata was the mother, or rather intended mother; for the whole flower-stem was accidentally broken off, after the individual blossoms had received the pollen. I am not myself a heath grower, but I am very anxious to recommend to the attention of some skilful cultivator of this lovely race, the attempt to unite the hardy British species with the exquisite race of South Africa. I presume that no physiological bar to the union exists, which peradventure might prevent a combination of the ericas of the Cape with the menziesias of Ireland; if not, how beautiful would the large blossoms of one appear, when suffused with the glowing hues of the other. As it is affirmed that the interesting little hardy shrub, known as Bryanthus erectus, is a true menziesia, it might be well to test its capabilities as the parent of a new race. Obstacles to the union of various heathworts seem to exist; as I am told that the late Dean of Manchester failed in raising crosses between Rhodothamnus Kamschaticus and some species of rhododendron, while he succeeded in getting a hybrid between Rhododendron dauricum atrovirens, which has flowered and is very distinct, and is now in the possession of Messrs. Veitch, of Exeter, who I believe possess the whole stock. Mr. Smith, of Norbiton, tells me that he cannot procure a union between the Azalea indicas and the fine Ghent varieties, though so many fine seedlings of each have been raised by him. I see that Messss. Rollisson have succeeded in raising seedlings between Rhododendron Javanicum and some hardy species, and I believe the same result has been accomplished in the nursery of Messrs. Veitch, so that we may hope to see orange and yellow added to the other colours of this glorious race. I do not grow many bulbs, but having observed at this early season a strong head of flowers of the Belladonna lily, which had been forced into bloom by having been planted at the foot of a wall, which receives heat from the kitchen chimney, I dusted the stigma with the pollen of a fine Amaryllis platypetala, and am hopeful regarding the result of the experiment; but the pollen of the Belladonna had had no effect on the Amaryllis.—A DEVONIAN.—*Gardener's Chronicle.*

CANTUA DEPENDENS.—For the last month I have had a fine plant covered with bloom, and it is likely to have a long succession too. It is a last year's plant, and during winter was kept in a dry greenhouse, at its warmest part, and in March I had it taken into the stove. It is a splendid flowering plant.—A YORKSHIREMAN, *near Leeds.*

SPOT ON THE PELARGONIUM.—That what is called "spot" exists more or less every year cannot be denied, and generally from August to January. To many this has been one of the most mysterious things connected with the cultivation of this popular flower, and has been handled both by growers and writers with some timidity, some attributing the cause to one thing and some to another; but as far as my experience has gone, the matter has been settled in my own mind long ago. My belief is, that the sole cause of spot is too much wet received by the plants just before and after they are cut down. How often are plants cut down while in a perfectly soddened state! This may be regarded as the first step to spot, and such a practice should always be avoided. A little consideration will prove this system to be perfectly wrong; for when plants are cut down in a wet state they bleed, and in many instances I have known them bleed to death. The Pelargonium cannot be too dry when it is cut down; and as the plants advance in growth the moisture may be increased. Another precursor of spot is, that in many places the plants are allowed to stand out of doors exposed to all weathers, &c., after they are cut down, which is very injurious to their constitution; and when they are watered every plant receives some, whether it requires it or not, and this is often done with a large rosed watering-pot. Such a course I very much disapprove of, and those who follow it can expect nothing less than the spot for their pains; besides, after the plants are watered at night, a storm may perchance "blow up," and still they are unprotected, the plant that has had too much water already still receiving more. I have no doubt that many of your readers, as well as myself, have seen the pots full of water two or three days after rain. Is not this, I would ask, injurious to the constitution of the plant? A dirty, broken frame is equally objectionable, and I believe it helps to bring about spot; but if the frame is clean, the lights washed, and the glass mended, it is very serviceable till September; nevertheless the plants should have abundance of air, the lights only being on during damp weather, and at night air should be given by tilting the lights at the back. The plants should also stand on some hard level bottom, for too much care cannot be bestowed on them for some time after they are cut down. It is very dicouraging to a gardener to see his plants in such a state as the spot brings them to, after, as he thinks, he has done all he could to prevent it. The plants require to be constantly gone over and the spotted leaves removed, and other extra trouble taken, which, if commenced well at the proper time, could have been saved.—(J. Dobson, in *The Florist.*)

Destruction of the Wireworm.—Thinking that a brief account of a very simple and efficacious plan for the destruction of the wireworm may either tend to confirm the practical value of some of the essays that may be written on the subject, or by its publication benefit the community, I beg permission to lay the few necessary particulars before the Journal Committee.

That I may not appear to assume what, in this, I have no title to, viz., the merit either in theory or practice of the plan, I must state that it was communicated to me a few days ago by my relation, Mr. Charles Charnock, of Holmfield-house, who himself received it from Sir William Cooke. Some few years after his entry on his farm, Mr. C. was complaining, in the presence of Sir William, of the injury his crops had sustained from wireworm, and lamenting that there was no known way of destroying them. Sir William then informed him that he had heard of and adopted a plan which had proved perfectly effective, and which Mr. C. subsequently followed with the same success.

In lieu of the ordinary top-dressing with rape-dust, apply to the land, and plough or harrow well in, 5 cwt. per acre of rape-cake, crushed into lumps, of about the size of half-inch ground bones, and the result will be that the wireworms will congregate on these lumps of cake, devouring them with such avidity as to become glutted, and perish either from repletion, or from the peculiar properties of the rape, or from the combined effects of the two. Rape-dust will not answer the purpose, because it presents no surface upon which the worms can fix themselves, and no substance into which they can eat their way. Perceiving that a satisfactory result was being attained in the first field to which the cake was applied, Mr. Charnock took up and examined many of the lumps, and found them full of the defunct and expiring enemy. The practice was, of course, followed throughout the farm where the worm prevailed, until in a year or two the land was perfectly freed, and that without any recurrence of the evil.

Mr. Charnock has also on several occasions since had recourse to the same means for preserving his carnations (which are very liable to be attacked by the wireworm), and he has invariably witnessed the same satisfactory result.

The plan is so simple, and apparently so efficacious, that I need not dilate further upon it than to remind those who may be disposed to try it, that whilst they may hope to destroy the worm they will certainly add a rich fertilizer to their land at a reasonable cost.

It should perhaps be mentioned, that the land to which Mr. Charnock applied the remedy is a dry soil on the magnesian limestone, and I believe Sir W. Cooke's was the same; but I see no reason for supposing that it would not be equally efficacious in other soils.—J. M. H. Charnock.—(Journal of *Royal Agricultural Society.*)

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

THE recent weather has been so cold that it has been hazardous to put out bedding plants; but now half-hardy or tender annuals, Heliotropes, Pelargoniums, Verbenas, Petunias, Celsias, Zinnias, Stocks, &c., may be attended to at once.

We have frequently called the attention of our young readers to the desirability of paying strict attention to the judicious arrangements of flowering plants, as regards height and harmony of colouring. It is true that, of late years, this subject has become a matter of study amongst gardeners, and great changes for the better have taken place in this respect; still we are far from supposing that we have arrived at perfection. Always bear in mind—if beauty, order, and effect are desired—that attention to this, next to a well laid-out flower-garden, is essential to their full development. In producing well-arranged contrasts, the different shades of colour must be as distinct from each other as possible: for instance, white should never be placed in contact with yellow, or deep-blue with crimson; but white forms a good contrast with blue or red, blue to orange, yellow to purple or violet, dark crimson to light blue, and scarlet should be placed near those which have a profuse green foliage, as red and green form the best contrast. Orange and violet do well. Greenish-yellow and rose contrast well.

The only attention now required with such is to water freely, being careful it does not pass off; tie up, &c. Pinks and Carnations will require due care in securing, and by the middle of the month pipings of Pinks may be taken off, and towards the end layers of some early Carnations be made. Thin away extra flower-buds. Dahlias will require securing, and thin out the shoots, so as only to retain about four or five. Stop the leading stem, to give support to the side ones. Cuttings will soon strike root. If the weather be dry, water daily a good supply at once: a portion of mulchy manure, spread over the roots, is very beneficial. Seeds of Sweet Williams, Canterbury Bells, Scabious, &c., should now be sown for next year's blooming. Auricula and Polyanthus must be kept in a shady but airy place. Prepare the compost for re-potting in next month. Sow seed as early as ripe. Pansy-seed also sow. (See Articles on, &c.)

New Flowers.—Let attention be given to hybridizing, with a view to obtain improved varieties. Roses: maggots often infest the buds; carefully examine and destroy. Green-fly, too, stop at first by fumigation, &c. (See Articles on.) Chrysanthemums: young plants should be prepared for the autumn. Violets for next year's blooming, attend to beds of, &c. (See Articles upon.)

IN THE GREENHOUSE, &c.

The greenhouse plants may now be placed out of doors; let them be duly watered, for if allowed to flag, the result is the leaves are damaged. Moss sprinkled between the pots keeps the soil cool.

The house will now have to be kept gay and sweet by Balsams, Globe Amaranthus, Cockscombs, Brachycoma, &c. Re-pot as required, to keep the plants in a growing state. Achimenes will now be coming into bloom; they repay for every attention. Cuttings of nearly all greenhouse plants should now be put off: May and June are the best months for that purpose. Cinerarias are highly ornamental, and well worth encouraging. Any done blooming and seed collected, if required, should be turned out of the pots entire into a bed of rich soil, where there is a shade from eleven to four o'clock. There they will flourish, and supply an increase for next year's bloom. Cuttings of Roses may be put in, and will soon strike. Camellias that have been forwarded by forcing the shoots and buds should now be placed in a cooler situation, to give vigour to them. When the grass of Ranunculus or Tulips is quite dead, the roots may be taken up. Pelargoniums, as they go out of bloom, must be prepared for another season. (See Articles on, &c.)

Ericas.—The early-blooming kinds should be draughted out, and others may follow them as fast as they go out of bloom. Examine the plants very carefully, and see that they are in a proper state as to moisture; and if you are an exhibitor, never put a plant of this or any other kind into a van without previously giving it a good soaking of water. The young plants which are not blooming had best be placed in a pit where they can be exposed or not, as may appear necessary. Stop such as require it boldly back, and train them so as to form a proper foundation for a good specimen. As the principal specimens go out of bloom, they may be removed to a shady situation to make their growth, being previously cut in, if necessary. Supports for an awning must be placed over them, so that in case of heavy storms or continued rain, they can be protected a little. Clear, weak manure-water may be used occasionally for the free-growing kinds. With regard to ventilation, there is no fear of your over-doing it after this time. Re-pot any requiring it, but do not over-pot; the one-shift system is injurious to nearly all the tribe, the only exceptions are those of rapid growth and robust habit. Rough peat and silver-sand, with bits of stone, &c., and a liberal drainage, are requisites. Epacrises, &c., should also be duly attended to in repotting, &c.

Azaleas in the forcing-pit must be kept shaded during bright sunshine, and a most growing atmosphere must be maintained around them. Water freely with weak guano-water, and sprinkle the vacant parts of the house or pit daily, but not upon the bloom. As the plants go out of flower, place them in heat, to perfect their wood for next year's blooming. (See Articles on in previous volumes.)

BRIEF REMARKS.

Horticultural, *April 5.*—Of fruits preserved without sugar or vinegar two collections were contributed, one—by far the best—by Mr. Lovejoy, butler to J. Thorne, Esq., of Mawbey-house, South Lambeth, the other from the neighbourhood of Birmingham. Mr. Lovejoy's consisted of Damsons, Greengage, Plums, Gooseberries, Rhubarb, Cherries, Black and Red Currants, Raspberries, and Mulberries, all in good condition, with their forms nearly as perfect as when first bottled. They were stated to have been treated as follows:—When the stalks were removed they were bottled, and boiling water added, having alum in it in the proportion of 1 drachm to 4 gallons. They were then permitted to stand till they had become cold, when the bottles were filled and bunged down tight. They were then placed in a copper of cold water, and heated to 176 degrees. After that a piece of bladder was tied over the bottles, and they were sealed securely up. A Banksian Medal was awarded. The second collection, which was very inferior to the above, was shown by Elizabeth Chaddish, cook to S. Rudder, Esq , of Handsworth. It consisted of Mussel and Damson Plums (both of 1851 and 1852, the one being about as sound as the other), Bilberries, Cherries, and Gooseberries. A Certificate of Merit was awarded it.—Some Grapes were shown by Mr. Allport, gardener to H. Akroyd, Esq., and Mr. Mitchell, of Brighton. Both were Black Hamburgh; Mr. Allport's being much the better of the two, but unfortunately a little rubbed by travelling. A Certificate was awarded them.—Other fruit consisted of forced Strawberries. Of these Mr. Ingram, gardener to her Majesty, at Frogmore, sent samples of his new seedling called Ingram's Prince of Wales, a sort raised from the British Queen. It is a large variety, and, in the present instance, somewhat coarse; but this is not its character when grown under natural circumstances. For forcing it is said to be much superior even to Keen's Seedling, being a sure setter; and as regards flavour, it is preferred above all other sorts at the royal table. It may be mentioned that, if, after forcing, the plants are turned out, and such flowers as appear removed up to the beginning of September, the plants will produce an abundance of fruit in autumn, when their coarseness will be found to have disappeared. A Banksian Medal was awarded.—Mr. Monro, gardener to the Earl of Clarendon, at the Grove, Watford, furnished unusually large samples of Cuthill's Black Prince Strawberry, showing that its small size, which is sometimes complained of, may be greatly improved under good cultivation. A curious fact belonging to this variety is that it frequently produces blossoms of a deep red colour. A Certificate was awarded. —Of vegetables, Mr. Bates, of Manor-house, East Molesey, Surrey, sent seven heads of excellent Broccoli, for which a certificate was awarded. The sort was not named, but it was certainly very fine, considering the condition in which the late severe weather has left this valuable esculent.—Mr. Lewis Solomon sent some French Peas, which looked as if they had been kept too long.

Meeting on April, 19th.—Mr. Myatt produced a bunch of his Victoria Rhubarb, a bright red, large, and showy variety.—Mr. Davis, of Oak-hill, East Barnet, sent three very good bunches of Black Hamburgh Grapes, for which a Certificate was awarded. Other fruit consisted of a dish of Keen's Seedling Strawberries from Mr. Fish, gardener to Colonel Sowerby, of Putteridge Bury, near Luton Beds. They were stated to be examples of what has been gathered at Putteridge Bury rather liberally for these seven weeks past. It was mentioned that, owing to the press of other matters, the fruit had not been thinned this season, or the individual berries would have been better. After trying various plans, Mr. Fish has found the following to answer best for Keen's Seedling. As soon as runners can be obtained they are fixed in 3-inch pots; when rooted they are separated from the parent plants, and re-potted singly in 5 and 6-inch pots—the first for early work, the last for the general crop. In potting, two things are made of much consequence, viz., keeping the crown of the plant well up in the centre of the pot, and packing the soil round it as firmly as possible. They are put in a shady situation for a few days, and then placed on hard ground, where they can obtain as much light as possible. This, with attention to watering, sheltering from heavy rains and severe frost in winter, and starting the plant in a low temperature, seem to be the chief essentials to success, especially when fruit is gathered in the beginning of March. The examples exhibited were received very late, and were much bruised by travelling; but they were well-ripened and fair average-sized fruit.—A Certificate was awarded to Mr. Todman, gardener to Mrs. Buckmaster, of Clapham-park, for three heads of Miller's Late White, and a similar number of Dixon's Waterloo Broccolis.—Of foreign produce, Mr. Lewis Solomon, of Covent-garden, sent excellent Green Peas, White Asparagus, and Green Sprew; new Kidney Potatoes, Artichokes, French Horn Carrots, Tomatoes, and a Salad, consisting of Cos and Cabbage Lettuces, as firm and good as at the best season of the year, excellent Curled Endive, and White and Red Turnip-rooted Radishes; the former much the better of the two. The Tomatoes, we understand, came from Algiers, where they are said to have been grown in the open air; they were certainly as fine as could be produced in this country in September or October. The carrots were also very fine, short and crisp, with a very slender tap root; and the Potatoes equalled those of the best English growth. Indeed, new French Potatoes, succeeded by those from the open ground in Cornwall, have almost driven English forced ones out of the market.

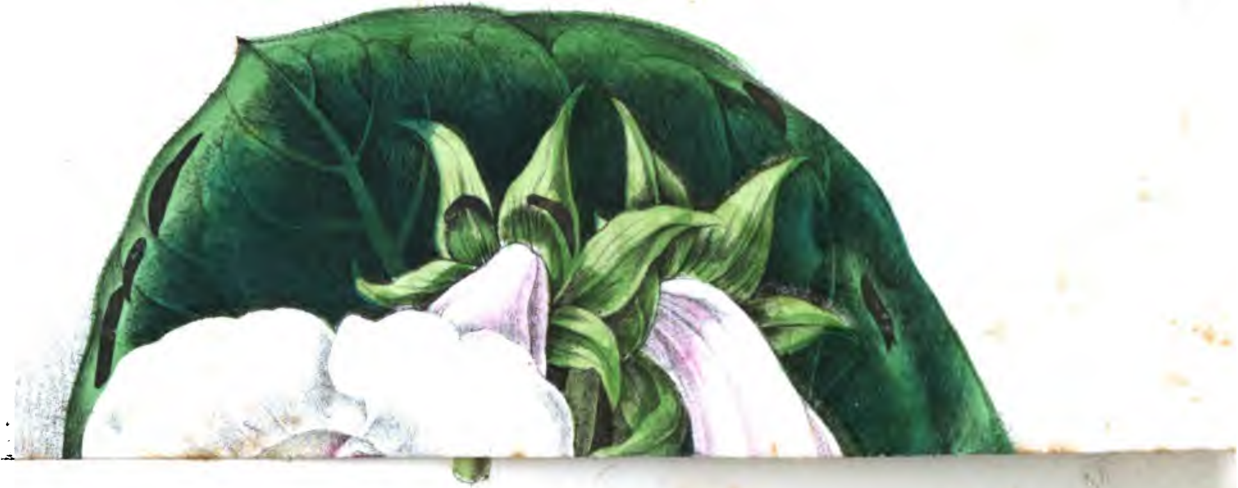
Sale of Mr. Epps' Heaths.—What kind of prices these realised may be gleaned from the following. We need hardly say that all of them were fine specimens, varying from two to four feet through, and as much high. Obbata fetched 8*l.*; Retorta, 5*l.* 10*s.*; Alberti Superba, 5*l.* 5*s.*; Tricolor Rubra, 3*l.* 7*s.* 6*d.*; Fastigiata Lutescens, 3*l.* 3*s.*; Ferruginea, 3*l.* 5*s.*; Macnabiana, 3*l.* 10*s.*; Cavendishii, 3*l.* 5*s.*; Hartnelli Virens, 4*l.* 10*s.*; Vasiflora, 4*l.* 10*s.*; Wilsoni, 3*l.* 5*s.*; Infundibuliformis, 3*l.* 3*s.* Other lots fetched from 1*l.* 10*s.* to 2*l.* 10*s.* each. A few Azaleas and other plants were also sold at the same sale, at prices varying from 2*l.* to 4*l* per lot.

Propagation of the Heliotrope.—My plan is as follows:—At the end of July I select tops of young shoots, from three to four inches in length, cut them square, that is, horizontally, at the bottom, close under a leaf, taking a few of the lower leaves away; I then insert them in a mixture of loam, rotten leaf-mould, and a little sand. I do not top them. I generally put from forty to fifty cuttings in a broad shallow pot, and place them in a cold frame, sprinkling them now and then to keep them moderately moist, and shading them from the sun; in this way rarely one in forty fails to grow. When rooted, I pot them off, from four to six in a pot, according to the size of the latter, preferring a certain number in one pot to a multitude of small pots. They are then stopped, and may remain until the following March, when they must be potted off singly, for the decoration of the parterre.—*W. Brown, Merevale.—Gardeners' Chronicle.*

Peat Charcoal.—Having observed in your paper of April 30 an article, signed J. Towers, in which the writer states, as the result of his experiments, that peat charcoal has no peculiar power in purifying sewage from its ammoniacal impregnation, so as to form manure, I beg to state that the failure of Mr. Towers must have arisen either from his experiments having been conducted on too small a scale, or from some other cause not fully explained; for it can easily be shown that peat charcoal, under proper management, not only does take up the ammoniacal salts, but that they can subsequently be fixed, so as to form one of the most valuable manures in the country.—*Geo. E. Lane, Superintendent of the Sewage Charcoal Works, Stanley Bridge, Fulham.—Gardeners' Chronicle.*

Failure in Blooming Ranunculuses.—I am an old subscriber to your Magazine, and my Ranunculuses not having succeeded well during three years, I am anxious for instruction how to proceed in future. The plants come up well, and are apparently healthy, but not more than one out of twenty blooms, or make any signs of it. I have read articles which have been given on the preparation of the bed, and after culture, by Mr. Tyso and others, and which I have strictly followed, but have met with disappointment. I should be obliged if some practical grower of these lovely flowers would, in the next Number, give me advice how to proceed with my present bed of them.—*W. F., Cornwall.*

Effects of the Late Winter.—The following is the way in which a few of our plants out of doors have fared here:—Benthamia Fragifera, much injured; Buxus Balearica and Cistus Formosus, unhurt; Clematis Azurea Grandiflora, on an east wall, unhurt; Erica Australis, a little injured; E. Mediterranea, the same; Forsythia Viridissima, unharmed; Garrya Elliptica, points of shoots killed; Ilex Balearica, unhurt; Jasminum Nudiflorum, against a wall, uninjured; Jasminum revolutum, on east wall, much hurt; Ligustrum Lucidum and Berberis Fascicularis, untouched; Photinia Serrulata, much injured; Quercus Suber, the same; Spiræa Japonica and Thea Viridis, uninjured; Vaccinium Myrsinites, much hurt; Cupressus Torulosa, rather browned. Of herbaceous plants:—*Alstrœmeria, Van Houtte's, not at all harmed; Dielytra Spectabilis, more than two feet high, and covered with flower, quite uninjured; Epimedium Colchicum, E. Macranthum, E. Muschianum, and E. Grandiflorum, all unhurt; Jasione Perennis, the same; Œnothera Speciosa, killed, but it was a moved plant; Pentstemon McEweni, unhurt; *Platycodon Grandiflorus and Silene Schafta, uninjured; Statice Pseudo Armeria, very much damaged, except on a dry bank; *Statice Speciosa, unhurt; Veronica Lindleyana, much injured, but not killed; *Lilium Speciosum and *L. Testaceum, unhurt. These two last are coming up very strongly indeed. And lastly, permit me to add, that Calandrina Umbellata, in a peat bed, is quite unhurt. Those marked thus * are grown in a peat bed. On the night of Good Friday my register thermometer, in an exposed situation, eighteen inches from the ground, marked 7° or 25° of frost.—*A. R., Bromley, Kent.*



Gloxinia Wilsonii.

FLORICULTURAL CABINET

JULY, 1853.

ILLUSTRATIONS.

GLOXINIA WILSONII.

> "Come gentle air! and while the thickets bloom,
> Convey the jasmine's breath divine,
> Convey the woodbine's rich perfume,
> Nor spare the sweet-leaved eglantine,
> By sweet-briar hedges, bathed in dew,
> Let me my wholesome path pursue."

Gloxinia Wilsonii.—This magnificent variety was raised in the garden of Charles Wilson, Esq., of Allerton, near Liverpool, from seed obtained from G. albo-sanguinea, but what it had been impregnated by we are not informed. The stock of it is now in the possession of Mr. George Davies, Stanley and Green-lane Nurseries, Old Swan, Liverpool, who sent us the drawing which Mr. Wilson had had taken at a time when its flowers, "though these are of a magnificent size," were not as large as others that were subsequently produced, being, as Mr. Davies informs us, of the extraordinary size of six inches long.

It is of vigorous habit, and a free bloomer. All the Gloxinias are handsome, some of them particularly so, and highly ornamental; but the variety now figured stands pre-eminently majestic above all others which we have seen, "although there now are one hundred and forty kinds," and ought to be in *every collection.*

Having in our last month's Number an excellent article on the management of Gloxinias, by Mr. Burley, it is quite unnecessary we should here do more than refer our readers to it for instruction thereon. Their ease in cultivation, profusion of flowers, highly ornamental for stove or greenhouse, and the long period of blooming, alike entitle them to a place in every one.

NOTES ON NEW OR RARE PLANTS.

Brillantaisia Owariensis.—Natural order, Acanthaceæ. It is a soft-stemmed under-shrub, a native of Sierra Leone. It has bloomed in the stove in the Apothecaries' Garden at Chelsea. It grows about four feet high, robust, much like one of the large-leaved Salvias. The flowers are borne in large terminal panicles, of a sage-like form, nearly two inches across the face, of a deep purple colour. It bloomed in profusion in the stove last March, and was very ornamental. (Figured in the *Botanical Magazine*, 4717.)

Episcia melittifolia. Natural order, Gesnericeæ, (Synonyme, Besleria melittæfolia.) It was sent to the Royal Gardens of Kew, by Dr. Imray, from Dominica. It is probably a native of the West Indies. The plant at Kew is about a foot high, robust, stem dark purple, leaves large, having sunk network-like veins at the surface. The flowers are produced at the axils of the upper leaves, each having a footstalk an inch and a half long, tube three parts of an inch long, yellow, tinged with red, and the limb (face of the flower) is fine parted, an inch across, of a dull-crimson colour. (Figured in the *Botanical Magazine*, 4720.)

Rhododendron Dalhousiæ.—This is the most magnificent of the Sikkim-Himalayan Rhododendrons. We gave a figure of it in a former Volume of this Magazine. It is a native of East Nepaul, Sikkim, and Bhotan, growing at elevations of from six to nine thousand feet, in humid (damp) forests. It is a straggling shrub, six to eight feet high, producing its flowers at the extremity of the branches, in terminal heads of from three to five blossoms. The flowers are very large, about five inches long and four across the mouth, somewhat resembling those of the White Lily of the gardens in form, and, like it, powerfully fragrant. In its native country and localities the shrub is often found growing upon the limbs of large trees, among moss, ferns, &c., similar to our stove Orchideous Epiphytes. It is in all situations and circumstances a magnificent plant. Mr. John Laing, gardener to the Earl of Rosslyn, Desart-house, Kirkaldy, North Britain, has the honour of having, by very skilful management, been the first person to flower this noble species in Great Britain, and most probably in Europe. It bloomed at Dysart Gardens in March, 1853, and a blooming specimen was sent to Sir W. J. Hooker; and a figure is given in the *Botanical Magazine* for June. The following particulars contain the interesting process of Mr. Laing's success :

"In January, 1852, I selected from our woods a vigorous plant of Rhododendron Ponticum, with a clean straight stem, about six feet high, removing all the lateral branches, and potting it in an eight-inch pot. About the end of January it was placed in the stove, where it was soon after inarched with R. Dalhousiæ. As the young shoot of the latter began to harden, it was gradually cut through till separated, and the plant was removed to a cool greenhouse to rest. It very soon showed symptoms of making another growth, and it was transferred to the stove to ripen its wood, preparatory to its being again put into a cool house, as the shoot ripened. Here it did not remain long before it made further progress, and again required the heat of the stove to ripen its third growth. About the end of October, a flower-bud was formed, when water was gradually withheld until it was moderately dry at the roots, and the plant was removed to a cool greenhouse for the entire winter. About the third week in February, 1853, it was placed in the stove, and began to show colour on the 16th of this month (March). When the flowers first appeared, they were of a greenish colour, which gradually changed into a yellow, deepening to pale-orange, which also has died away, leaving it almost a pure white. I may also state that the plant has never been exposed out of doors; had it been so, the rusty colour on the upper surface of the leaf would have very likely been removed. The bark on the first shoot or growth is of a brown colour; but the other two growths are yet green." The above particulars are here given, that any of our readers having this or other of these fine Rhododendrons, may see what process is likely to promote an early blooming of such as hitherto have not shown signs of flowering.

RHODODENDRON GLAUCUM.—Another of the Sikkim Himalayan introductions by Dr. Hooker, a plant, a foot high, bloomed in April, in the cool greenhouse in the Royal Gardens of Kew; others, however, thrive well in the open ground, but have not yet bloomed. The leaves are from three to four inches long, and three parts of an inch broad at the widest part. The flowers are, when in bud, of a deep red; when expanded, of a beautiful rose-colour: each being bell-shaped, about an inch long, and the same across the mouth. They are produced in terminal umbels of four or five in each. It is very neat and beautiful, and in its native hills grows to an erect shrub two feet in height. (Figured in *Botanical Magazine*, 4721.)

SKIMMIA JAPONICA.—Native of Japan, growing, as Dr. Siebold informs us, upon the hills, forming a handsome shrub of from three to four feet high. The leaves, or wood, if bruised, are very aromatic; and the flowers have a delicious fragrance. It is an evergreen, smooth, and the leaves are shining, thick, about five inches long, oblong, tapering at each end, and an inch and a half broad at the widest part. The flowers are borne in terminal, panicled heads, numerously, and close. Each blossom is about half an inch across, white. The spiked-head of the flower is three inches long and two through it, and is succeeded with very beautiful heads of scarlet fruits, which are highly ornamental. Each berry, globe-shaped, as large as a good-sized marrow pea. It proves to be quite hardy, having stood out at Bagshot during the last two winters, without sustaining the least injury. It merits a place in every shrubbery, or in the greenhouse, entrance-hall, &c. (Figured in *Botanical Magazine*, 4719.)

CISSUS DISCOLOR.—In our last year's Volume we noticed this charming climbing-plant; but its exquisitely handsome foliage induces us to introduce it again to the notice of our readers. It is a shrubby plant, of medium growth. The leaves are of an oblong-oval form, each being from four to five inches long. The upper side is of a green, with the veins of a rosy-red tinge, and the spaces between the veins are beautifully marbled, or embossed at the centre with silvery white. The edge of the leaf has a narrow margin of rosy-red. The underside of the leaves is of a rosy-crimson, with red veins. It grows very freely, and is readily cultivated and increased. It appears very likely to succeed well, too, in the greenhouse, if it can have the warmest part in winter, or be kept in similar protection. In different atmospheres, the hues of colouring of the leaves is very strikingly variable, in proportion to the extremes of temperature. Every floral establishment, public or private, ought to contain one or more of this beautiful plant. It may be procured, too, at a small cost. It is a neat plant for training round a wire frame, or to a pillar. (Figured in Van Houtte's *Flore.*)

APHELANDRA SQUARROSA, VARIETY CITRINA.—This is the plant recently exhibited at the Chiswick and Regent's-park shows, by Mr. Van Houtte. It is one of the soft-wooded plants, similar to the Justicia carnea, or others, in habit. The leaves are large, of a rich green, each vein having an edging of pure white, the contrast being very strikingly pretty. The flowers are Justicia-like in form, borne in terminal, large, spiked-heads, of a beautiful citron-yellow. It is as free in culture and increase as our other Aphelandras are. (Figured in Van Houtte's *Flore des Serres.*)

MAGNOLIA GRANDIFLORA VARIEGATA.—This very superb variety has leaves of the size of the M. grandiflora, with those noble leaves edged and striped with creamy-white. It is a valuable acquisition, and plants are offered to the public, by M. Oudin and Son, of Lisieux, who also possess **SYRINGA JOSIKEYA VARIEGATA**, the fine foliage of which is green and white ; it merits a place in every shrubbery.

CAMELLIA ROULII.—A fine, large, *globular-shaped* flower, of a creamy-yellow colour, edged with rosy-carmine. New and very handsome.

CAMELLIA CHATEAUBRIAND.—Imbricate form, a bright carmine, with each petal edged with white. Very handsome.

C. COUNTESS DE CHAMBORD.—Imbricate form, a delicate rose, petals *transparent*, very superb.

C. ELLEN LENNING.—The flowers are very large, Ranunculus-formed, a delicate rose, shaded with rich purple. Very superb.

C. CAPTAIN MACKALL.—The flowers are very large, Ranunculus-formed, and of a shining rich purple-crimson colour, with irregular patches of white. Very handsome.

CHRYSANTHEMUM, Queen of the Chrysanthemums.—The flowers are of a perfect *globe* shape, very large, and the petals rose on one side and purple the other. Superb.

HELIOTROPIUM MADAME BOUCHARLET.—A vigorous-growing plant, having very large heads of flowers, of a bright violet, each blossom having a green and yellow centre. A very superior variety.

H. LOUIS CHAIX.—Vigorous plant, large heads of flowers ; lilac, with a pure white eye. Very handsome.

NEW AND FANCY PELARGONIUMS.

MAGNUM BONUM.—Upper petals crimson-purple, lower petals pencilled and shaded with crimson-violet. Form and substance good.

Darling.—Upper petals rosy-lilac, lower petals light, with rosy-lilac markings. An abundant bloomer, and good grower.

Resplendens.—A brilliant scarlet-crimson flower; lower petals light, with markings of the same. A flower of good form, the most brilliant of its class.

Goliah.—The largest and most showy colour yet raised; upper petals rich mulberry-colour, shaded with violet; lower petals marked with the same colour, clear white throat. A delicate grower.

Barrier.—Upper petals rich mulberry-colour, with a rich velvety texture; lower petals violet-crimson. Good grower, and free bloomer.

Princess Alice Maude.—Upper petals bright crimson, and margined with white; lower petals white, tinged with blush, fine form. An immense bloomer, and good grower. A great favourite.

Duchesse de Orleans.—Upper petals bright rose; lower petals white, tinged with blush. Fine form and good habit. Free bloomer.

FANCY GERANIUMS.

Advancer.—Upper petals mulberry, with a slight light margin; lower petals blush, pencilled with purplish-crimson.

Beauty of St. John's Wood.—Upper petals bright violet-carmine, with a regular clear white margin; a regular belting of carmine runs through the under petals. Good truss, and an excellent grower.

Gipsy Queen.—Upper petals rich plum-colour, shaded with mulberry, and light lilac margin; lower petals white, spotted, and pencilled with purple.

Lady Downes.—Rosy crimson, edged with white; lower petals violet-rose, white throat, and good truss.

Lantana Marquis de Saporta.—The plant is of dwarfish habit, and the flowers are in large heads, of a beautiful orange-yellow, which changes to a rosy salmon, giving a pretty contrast. A superb variety.

L. alba-grandiflora.—The habit of the plant is very similar to the previous one. The flowers are produced in large heads, a pure white with a yellow eye. Very pretty.

L. lutea superba.—The flowers are large, and in large heads, of a rich citron-yellow.

L. flavicoma.—The flowers are of a rich, clear yellow, rising very full at the crown of the corymbous head. The above new Lantanas are valuable acquisitions both for indoors and the beds outdoors in summer, and can be procured at a very reasonable price.

Pœnia arborea-variety Alba-lilacina.—This new tree, Pœnia, has large flowers, white and violet, with the centre of violet-carmine. Very pretty.

P. Madame de Vatry.—Flowers very large, and of a perfect globe shape, and of a satin-rose colour. Very beautiful, and probably the best of all the P. arborea section.

P. albiflora globosa.—This is one of the herbaceous kind. The flowers are large and of a perfect globe shape, rose with white stripes. Very handsome.

NEW PLANTS AT THE RECENT EXHIBITIONS IN LONDON.

Ixora.—A new species, by Mr. Veitch. It is in the way of I. Javanica; but the foliage and flowers are larger.

Philesia buxifolia, by Mr. Veitch.—It is a hardy, dwarf, evergreen shrub, from Patagonia. It has the appearance of a bush of Andromeda grandiflora, the foliage narrow. The flowers are of a rosy-pink colour, each blossom two inches long and an inch across the mouth, somewhat in the form of a small blossom of Lapagexia rosea. It is very handsome, and a valuable acquisition.

Pœnia montana lilicina.—This very magnificent flowering plant is growing in the Horticultural Society's Garden. Each flower is a foot across, lilac with a dark centre. It is one, we believe, introduced by the Society from China.

Azalea Perryana, by Mr. Kinghorn.—Flowers a fine orange-scarlet, large, of good substance and form.

Azalea purpurea superba.—Flowers very large, purple, with crimson spots, and very showy.

Azalea striata formosissima.—Flowers white, spotted numerously, and striped with lilac. Very pretty.

NEW, OR OTHER HANDSOME FLOWERING PLANTS IN BLOOM IN THE ROYAL GARDENS OF KEW.

Greenhouse. Gloxinia rubra-violacea.—The outside of the flower a rosy-red. Inside a rich-violet, edged with purple.

G. Maria Van Houtte.—Outside white, tinged with carmine. Inside white, with the lower portion (by some persons termed the *throat*, and which we shall use in our further descriptions of these flowers), of a rich deep crimson. Fine form, and handsome.

G. Franklin.—Outside white. Inside white, with the throat of blue, and a cream-coloured stripe up the middle.

G. Joschtii—Outside blush. Inside white, with a crimson-velvet throat, edged with carmine. Medium size, and a very free bloomer.

G. Victoria Regina.—Outside white, tinged with lilac. Inside white, with the throat of a deep velvet, edged with blue. Very handsome.

G. Souvenir de Bordeaux.—Pink, with a white throat. Very neat.

G. Baron de Vriere.—Outside creamy-white. Inside white, with the throat a lavender-colour, having a white stripe up the middle. Large and pretty.

G. Madame Malibran.—Rose, with a violet throat.

G. Wortleyana.—Outside white. Inside white, with the throat light blue and a broad white stripe, spotted with black up the middle. Very beautiful.

G. Reine des Belges.—Outside pretty blush. Inside white. Fine form, and very pretty.

G. Josephine Bouchier.—Outside white. Inside white, with a blue throat, having a stripe of sulphur up the middle. Very pretty.

G. Spectabilis.—A slate-blue colour, with a deep violet-blue throat. Fine and pretty.

G. **Petoniana.**—Outside white, with blush tinge. Inside white, with a crimson throat.

G. **Comtesse Barratt.**—Light lavender, with a white throat, edged with dark blue. Fine form, medium-sized, and very neat.

G. **Marginata.**—White, with the throat of purple, edged with rich blue. Fine form.

G. **Madame Chantu.**—White, having the throat a rich crimson, with cream-coloured stripe up the middle. Very neat.

Datura pleno-flava.—The plant is of medium growth, shrubby, branching, and the flowers, too, of medium size, double, of a pale-yellow colour. Very pretty, and will be a nice contrast with the D. Knightii, with its double white blossoms.

Mahernia vestita.—It forms a neat dwarf bush, with pretty fine cut foliage. The flowers are drooping, about half an inch across, of a rich orange-colour, very pretty, and borne in profusion. It merits a place in every greenhouse.

Leptospermum bullatum.—A neat, stiff, bushy shrub, having neat *heath-like* foliage, and nearly covered with its pure white flowers. Each blossom is about three parts of an inch across. It is very neat and ornamental, and worth a place in every greenhouse.

Crotolaria purpurea.—The plant, when its shoots are stopped, forms a neat bush, and in proportion to its branches are its large spiked heads of pea-like rosy-purple flowers. It is very neat and ornamental.

Azalea Ardens.—The flowers of good shape and substance, of a fiery orange-red, produced in vast profusion, and exceedingly ornamental.

Azalea alba-magna.—Flowers very large, fine form, and good substance.

Geum aurantiacum.—Flowers two inches across, of a fine orange-scarlet colour. It is said to have been raised from G. coccineum, impregnated by one of the large flowered Potentillas. Is a very handsome hardy herbaceous plant; we recently obtained it.

In our next we shall give a list of the best flowering hardy herbaceous plants and shrubs.

CULTURE OF THE EPACRIS,

(With a List of a few of the best and most distinct.)

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

This charming family of plants is known by most of the readers of your *Cabinet*, and is, I am sure, admired by all who grow them for their very great variety of colours, free blooming, when grown to perfection, and the time of year they are in bloom. I know of no better or more beautiful greenhouse plants than they are, with their lively-coloured flowers, for winter ornament; and when properly managed, each plant will produce its hundreds of pretty tube-shaped flowers, and continue in bloom for a long time; in fact, a collection of these plants, mixed with *Primulas*, *Ericas*, *Hyacinths*, and other spring blooming plants, have a charming and gay appearance in either greenhouse, conservatory, or sitting-room, and contribute to brighten the dulness of the season when gardening in general is without attraction. No doubt many of the readers of the *Cabinet* have a few of these charming plants; I shall therefore give for their guide, in managing them successfully, the soil best suitable for their growth, the time of potting, and such other information required to enable the cultivator to grow them to that perfection that they deserve; also, for those who would wish to form a collection, I have *annexed* a list of the best, with the colours. SOIL; the most suitable for their growth is good brown peat, with silver sand added to it to keep it free; the peat must be broken rather small for the first potting, increasing its roughness as the plants increase in growth; *for example,* supposing a plant in a 32-sized pot requires repotting, the peat should be broken in pieces, about the size of a filbert-nut, using a moderate sprinkling of sand, and let it be well mixed; then have ready a 24-sized pot, perfectly clean and well drained, placing over the hole in the bottom of the pot a large crock, and place over them about a half-inch of smaller ones; then place a layer of the roughest of the peat over the drainage to keep it free, as it would be liable to be choked by frequent waterings; turn the plant out of the pot, and remove any old loose soil that can be taken away without disturbing the roots; place it in the pot, and in potting press the mould moderately tight, and leave about a quarter of an inch clear inside the rim, to admit of liberal watering when dry. After flowering, the plants should be cut back; that is, "the long flowering shoots should be shortened as far back as where they pushed from the last season." They should then be removed into a close frame, and be kept shaded until they begin to break afresh. Where stove-heat can be had, they would be helped to break by being placed in it for about "a fortnight." When sufficiently furnished with young shoots, they should be placed in a cool frame, giving a little air, so as to gradually harden them. When the new shoots are about two to three inches long, the plants should be repotted, as directed before, and after potting they should be kept shaded for a day or two, to prevent the young shoots from flagging, which after potting they are apt to do, especially when the old soil has been removed rather close from the roots. After a short time, and as the season advances, they must be removed from the frame and placed out of doors in a shady spot. Under a north aspected wall will do well for this purpose. Let a little coal-ashes be spread over the ground, and the plants every day arranged on it. They should remain here during the summer season, and all the care they will require will be to see they do not lack a due supply of water, and the soil on the surface of the pot be stirred a little occasionally, to keep it from becoming green. In October the plants must be removed from their summer quarters, the pots washed, and plants cleaned, then place them in the greenhouse for winter, where they may be mixed with other plants, such as Camellias, Azaleas, and such like plants. The only heat they will require in winter is "just enough to keep out frost;" in fact, in all seasons of their growth, the more air and light they have the better for the plants, and the more robust their growth. By following the above routine of treatment I am quite sure that fine, healthy, vigorous plants will be produced, much better than we are accustomed at times to see them; viz., straggling naked plants, which at the blooming season only produce a flower here and there. It must have been noticed at different places that Epacrises are to be seen, above all others, of a meagre and sickly appearance, which is occasioned from a neglect in being duly potted. If any of the readers of this have some such plants, presenting an appearance such as I have described, let them be turned out, repotted in the compost, *rough*, as recommended, shorten the branches, and they will find that the plant, or plants, will soon improve. The yellow tops of the shoots is occasioned by using "fine mould" in potting instead of "rough." When potted in fine mould the soil, by frequent waterings, gets hard, and the plants at once begin to look bad. They are easily propagated by cuttings taken from *half-ripened* wood, and inserted in silver sand, placed in a warm house, and covered with a bell-glass. The pot containing the cuttings should be half filled with draining crocks, and filled to within two inches of the top with rough soil, then one inch of finely sifted peat, and one inch of silver sand.

E. miniata, rich salmon pink, shading up to white at the tip.
,, *alba-odorata,* a white sweet-scented variety; close habit.
,, *hyacinthiflora,* a deep blush flower, erect habit; very free bloomer.
,, *impressa rubra,* dark rose-coloured flower, profuse bloomer.
,, *hyacinthiflora candidissima,* the best pure white.
,, *impressa-alba,* a good white; profuse bloomer.
,, *ardentissima,* a deep rosy purple; free bloomer.
,, *splendida,* an orange-scarlet; very fine and free bloomer.
,, *Tauntoniensis,* a deep rose, a profuse bloomer.
,, *rubella,* very bright pink, good colour, very fine.
,, *coccinia,* the best scarlet; habit rather indifferent.
,, *magnifica,* deep blush, short tube, free bloomer.
,, *bride,* a very fine white; good habit, and free bloomer.
,, *grandiflora,* long rosy-purple tube, shading off to white.
,, *variegata,* purplish colour, shading off to white.
,, *velicata,* light rosy-pink, white tips.
,, *sanguinea,* very bright red, free bloomer.
,, *impressa candida compacta,* a very fine close growing white, abundant bloomer, and good formed flower.

The above eighteen kinds may be purchased at trifling prices, as low as 2*s*. to 3*s*. each. They would form a good small collection. When a larger collection is required, there is an ample assortment of other beautiful ones; for there now are upwards of sixty species and varieties cultivated in our own country.

REMARKS ON THE DAPHNE.

BY MR. P. MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

THERE are some species of Daphne that have long been favourites with the lovers of garden flowers, and although some of them are natives of Britain, there would be no harm to see them more plentifully grown throughout the country. Our cold spring, this season, has kept the DAPHNE MEZEREUM long in flower, although not backward in taking the lead among spring flowers with its bright blossoms of red and white.

We are told that it is a native in the woods of some of the counties of England, although it was introduced from Sweden into the English garden many years before a better acquaintance with our native botany had led to the knowledge that it belonged to England's flora.

Nor is it like many plants confined to a small spot on the surface of earth, for we are told that it grows in woods, throughout Europe, from the forests of the cold Lapland, where it looks gay among the dark firs and the stunted birch-trees, to the richly-decked groves of the bright islands of the Mediterranean Sea. Its sweet-scented flowers are out before the leaves appear, which has been noticed by Cowper—

> "Mezereum, too,
> Though leafless, well attired and thick beset
> With blushing leaves investing every spring."

Almost every part of the Mezereum is acrid; its berries are highly poisonous. Dr. Thornton records the case of his young sister, who died in consequence of eating but a small number of these bright fruits; yet a writer remarks, "poisonous as they are to men and animals in general, the Great Creator has adapted them to the use of some of his creatures, for to the birds they are palatable and nourishing, and the thrush and the blackbird search for them eagerly, and haunt the neighbouring trees and hedges where these bushes abound."

The DAPHNE LAUREOLE is more common in our shrubberies, and sometimes they will make their appearance in places in a way not easily explained. We knew a place where they were never known to have been planted, and yet one season a considerable number of young plants made their appearance in a certain part of the shrubbery, not only where the ground was dug, but also among the grass near where the borders were dug. Its mode of growth has been compared to that of the palm-tree, with its circular rows of leaves around its stem; the smell of its pale yellowish-drooping flowers, which hang in clusters under its dark-glossy leaves, is not unpleasant. Like the Mezereum, it has an arid property, and its bluish-black berries are poisonous; it is also an evergreen, and looks as bright in the winter as when the summer sun shines upon it.

The Daphne cneorum, or garland flowers, ought to have a place in every flower-garden or shrubbery where it can be grown; it is now a hundred years since it was introduced to this country, and the wonder is that such sweet-smelling flowers in the month of May are not found in every garden. We had a plant of it this year with upwards of 400 heads of blossoms, and each head averaging twenty flowers; now 8,000 flowers breathing sweetness from a low trailing plant in a summer morning, was truly delightful. It will not grow in every kind of soil and situation; but what has been denominated, "one of the most lovely, and sweetly-perfumed plants in the world," ought to have a little attention bestowed upon it. The plant that flowered so well grows upon a dry peaty bank, facing the south.

A correspondent in the *Gardener's Chroinicle,* says that the most successful way of cultivating the above fragrant herby Daphne, is to plant it in an exposed airy dry situation, in peat and road sand; if the ground is naturally low and wet, a barrowful of broken tiles, stones, &c., must be put into the hole, and on the top of them pieces of turf be placed, the grass-side downwards. Then put on the compost, chopped fine, but not sifted. Under this treatment every shoot will send out roots, and bloom freely.

THE BEAUTY OF THE WEEPING BIRCH.

BY MR. P. MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

At this season the Weeping Birch is a great ornament to our woods and pleasure-grounds: it would do no harm if the number were increased in many places where less hardy trees will not thrive. The fragrant Birk of Banus is a favourite with most people; and though only cultivated for ornament, it might be more common than it is, since it is both cheap and hardy. This elegantly-pendulous tree, "arching like a fountain shower," is beautifully described by Wordsworth:

> "Light birch aloft upon the horizon's edge,
> Transparent texture framing in the east
> A veil of glory for the ascending moon."

It has also been described as the most beautiful of forest trees:

> " ——its slender tress,
> So beautifully fair,
> As graceful in its loveliness
> As maiden's flowing hair."

The Lady of the Woods, intimately connected as it is with the literary history and ceremonials civil and religious of earlier times, is still more forcibly associated in our memories with the bright, happy, buoyant days of youth, with scenes of exquisite, but evanescent mingled pains and pleasures, when to our minds "life and its thousand joys seemed but as one long summer day." Another remarks, that the sight of a Birch-tree offers a vast subject of interesting meditations, and happy the man to whom its flexible pendant branches do not recal to mind that to him they were formerly instruments of punishment.

TO INDUCE THE MITRARIA COCCINEA TO BLOOM FREELY.

BY W. D., A BRIDGEWATERMAN, AT LEEDS.

Seeing in the April Number of this Magazine (page 96), that M. R. M., of Bridgewater, solicits information relative to the treatment of this most beautiful flowering plant, so as to have it blossom freely, and no compliance with the request appearing in either May or June Numbers, I venture to forward a few particulars of the mode of treatment I practised with the Mitraria coccinea, with "very great success."

Three years ago I procured a small plant, re-potted it into a size-larger pot, and placed it in a cool greenhouse, where it soon began to grow vigorously, and quickly filled the pot (six inches across) with roots. About the middle of July I gave it another pot, one size larger, and I put a small stick in the centre, to which I tied up the strongest branch, and cut off the lead of each of the other shoots, so that by the end of summer I had a neat little, close-grown pyramid-shaped plant. The following spring it produced a fair portion of its large, brilliant, scarlet, pendent flowers. The second season I gave it a liberal shift immediately after it had done blooming, and cut in the shoots a little, and still keeping it in the pyramidal form. Last year it was a perfect object of splendour, and was much admired by every one who saw it. The same treatment was again followed; viz., one shift with a plenty of lopping the leads; and it is now in splendid bloom, and will be for a long time to come, it being one of those useful plants that gives us a long succession of flowers.

The soil I grow it in consists of two parts loam (not common garden soil, but loam cut from a pasture field, about three inches thick, and laid up for twelve months), and one part of peat, with a liberal portion of silver sand, also a sprinkling of bits of charcoal; the whole well mixed together, and having a free drainage. It is grown in a house along with Epacrises, Pimeleas, Eriostemons, &c., and ranks in beauty and splendour with those, or any inmates of the house.

If M. R. M. will treat his Mitraria as above detailed, he will have one of the finest objects he can wish for as an ornamental greenhouse plant. I may mention that my plant is now three feet six inches high, and three feet through, forming a perfect gem. To sum up the whole, the plant wants a great deal of stopping of its leads *while growing*, for it is on the *little lateral shoots* that the flowers are produced. If it is allowed to make *long shoots*, it will but have a few flowers, if any. It merits a place in every greenhouse.

REMARKS ON SUNDRY MATTERS CONNECTED WITH THE CULTIVATION OF FLOWERS.

BY MR. P. MACKENZIE, WEST PLEAN, NORTH BRITAIN.

MEDICAL men inform us that the use of tobacco should be at once discontinued, because it is undoubtedly injurious to all persons in a greater or less degree, and with some constitutions it is so to a very important extent; yet with all their warnings many will use it, although they are sensible that it is hurtful to them. There are many smokers keen florists, and many of their plants, especially house plants, are much injured by the green-fly; we would therefore advise them to make the most of their smoke, and keep in subjection those pests that are troublesome to their favourite roses and pelargoniums.

We know an individual who has a small greenhouse, which he, in a great measure, looks after without much assistance from others, and instead of annoying others in his house with the smoke from his pipe, he sits among his collection of plants, and derives a pleasure in seeing the smoke ascending in beautiful curls among the green foliage of his favourites, and disturbing the happiness of the small insects that lodge among the leaves and branches. The green-fly upon plants in windows may be displaced in a similar way by those who can use the pipe; but at the same time, we would not recommend smoking merely for the purpose of keeping plants clean.

One writing on insects and diseases of house plants, remarks, that plants in rooms, especially Geraniums and Roses, are very likely to be attacked by aphides or green-fly; these may be easily removed by tobacco water. Camphorated water may be used by those who dislike the smell of tobacco. Mildew occasionally, though rarely, attacks house plants. It appears like a white powder, and is supposed to consist of minute fungi; but these fungi are not the original disease, but its consequence, and their appearance shows that the plant has been in impure air, or otherwise imperfectly treated. Sulphur or camphor will effectually remove this mildew and a scaly insect of the cocus tribe, which appears occasionally on Oranges, Camellias, and similar plants, may be removed by a sponge and water. Many persons have a dislike to plants in houses as being unhealthy; and as this dislike is in a great measure groundless, we may notice it. Dr. Priestley was the first to show that the leaves of plants absorb carbonic acid gas by their upper surface, and give out oxygen by their under surface, thereby tending to purify the air in as far as animal life is concerned, because carbonic acid gas is pernicious to animals, and oxygen is what that life requires. It is in the light, however, that these operations are carried on, for in the dark plants give out carbon, and this may be one reason why plants grown in the dark have little or no charcoal in their substance. It does not appear, however, that any of the scentless products given out by plants are injurious to human beings; because those who live among accumulated plants are not less healthy than others, though many persons feel dislike, and even pain from the odours of particular plants, in a way not easily accounted for. On the continent in general, and in France and Germany in particular, flowers of all sorts, but particularly the most fragrant, are admitted into the saloons, chambers, and even bed-rooms of people of all classes; and they rather complain of the difficulty of procuring them in sufficient abundance than of any ill effects arising from their presence. The flowers most in demand for the chambers of the French and Germans are Oranges, Jasmines, Carnations, Honeysuckles, Mignonette, Olive, Rocket, Rose, Violet, Wallflower, Rosemary, Stocks, Lavendar, Oleander, Hyacinth, Lilac, Syringa, Heliotrope, Narcissus, &c., all sweet-smelling flowers, and these they indulge in to a very considerable extent. We may safely conclude, then, that plants admitted into rooms to the extent that they are, can produce no effect injurious to the health of persons in general, but, on the contrary, will afford amusement to the mind and exercise to the body, both of which are so necessary towards the enjoyment of good health. The mind will be agreeably exercised in contemplating the beauty of the flowers, but much more so still if their respective parts, natures, and structures in a botanical, or physiological point of view, be at the same time attended to, and an agreeable and rational exercise will be provided for the body of the proprietor, if the softer sex take the entire management of her little window garden into her own hands.

ON THE CULTIVATION OF EXOTIC FRUITS.

BY P. WALLACE, CHISWICK-HOUSE.

(An extract from the Journal of the Horticultural Society, Part i. vol. viii., Jan. 1853. Many of our readers have applied to us for information upon the culture of the Orange-tree, &c., which induces us to insert the following excellent details.)—EDITOR.

WHEN we consider the success which attended the covering in of the large space of ground occupied by the Exhibition building of 1851, there can be little doubt that a new era has commenced in the construction of large glass-houses for horticultural purposes, and that in future the erection of such buildings will become a matter of no great difficulty, and, comparatively speaking, of little expense. Such being the case, I would therefore direct the attention of gardeners and their employers to a more extensive cultivation of exotic fruits. Although great advances have already been made in this department of gardening, yet, looking at the variety of exotic fruits that have come under my notice both at home and abroad, I feel persuaded that their culture can be carried much farther than it ever yet has been, and at the same time be conducted at much less expense, adding to the dessert a variety of handsome and delicious fruits, which are now only known by reputation, or procured with difficulty from foreign countries.

The fruits I would more especially treat of in this paper are such as can be cultivated in a temperate house or conservatory. A proper and good style of building might be that represented by the flat ridge and furrow-roofed Lily-house at Chatsworth (the house "that gave birth to the Crystal Palace"), and a very similar model greenhouse, erected by Messrs. Hartley in the Society's Garden at Chiswick. In extent it might be from a Crystal Palace down to a nice snug conservatory, according to the desire and wants of the establishment, bearing in mind that all the light and air that can be obtained will be requisite for the production and proper ripening of such fruits as the China, Lisbon, Maltese, and Tangerine Oranges, Sweet Limes, and Lemons, the Loquat, Guavas, the Longan, the Alligator Pear, the Custard Apple, Pomegranates, and many others of less importance, yet creating interest in a collection of this kind. The different kinds of Granadillas might be trained up the columns and supports of the building, provided they did not interfere with the amount of light required, or otherwise incommode more valuable plants.

I have seen all the above-named trees bearing and perfecting their fruit in the temperate Island of St. Michael, whose only advantage in point of climate over that of our own is its mild winter. From this I conclude they might all be grown with the greatest success in a temperate house in England, the house being supplied with sufficient heating apparatus to exclude the chill of winter.

I might here state, by way of inducement to cultivate the more useful Orange-trees, especially the Tangerine, in England, that the trees in the countries from whence we derive our principal supplies are infested by a kind of Coccus, which is annually destroying acres of Orange-gardens, and rendering the fruit of others worthless. We have heard of the sad effects of the vine-blight in France, Spain, Portugal, and the Island of Madeira. The Coccus might as easily extend to the other countries from which the rest of our Oranges come, and thus cause a scarcity of this deservedly much-esteemed fruit. Even at the present time I believe that, owing to the small quantity sent to this country, the Tangerine Orange could be produced at a less cost than that for which they can be bought in our markets. I would recommend those who may be desirous of cultivating the fruits I have enumerated to have borders formed for their reception, as the success likely to attend their culture will be greater if planted in the open soil than it would be in tubs or boxes. By tasteful arrangement, too, a house of exotic fruits could be made at once useful and highly enjoyable. The borders must not be too deep; from two to three feet will be ample, and good drainage will be requisite.

A suitable soil for forming borders would be two-thirds strong turfy loam, and one-third old and well decayed manure, liberally mixed with a quantity of brickbats and broken sandstone, which would permit superabundant water to pass off and maintain a healthy medium for the roots. It has been customary for Orange-growers to use strong and powerful manures, as garbage and other decayed animal substances. The late Mr. Ayres, a most successful cultivator of Citronworts, employed such stimulants at Shipley Hall, in Derbyshire, but then his trees were in tubs, and consequently such applications were necessary. Growing in the natural way, however, in borders, the use of garbage, &c., is not required, and the frequent and troublesome business of re-tubbing is thus done away with. It has also been a long-acknowledged axiom that Orangeries, to grow fine trees, must be heavy, shady, and sombre-looking buildings, inside and out. In the present advanced state of gardening, however, but few illustrations will be required, I imagine, to subvert this notion. Look, for instance, at the sunny climes and cloudless skies in countries where Orange-trees succeed best. I was in Lisbon a fortnight in May, 1849, and I never once during my stay saw a cloud on the face of the sun. I was informed that the whole summer usually passed away in the same manner, and that the winter there was equally remarkable for its clear and cloudless sky. When Orange-trees were first introduced to the Island of St. Michael, it was found absolutely necessary to plant quicker growing trees around them, to shelter them from the rude winds of the Atlantic. To such an extent was this planting of shelter carried and persevered in, that that which was meant for and really would have been a benefit, became an evil. The Orange-trees in the over-sheltered gardens grew fast and luxuriantly, but the produce was inferior in quality and quantity to that of gardens on the sides of mountains, where it was found impossible to exclude sunlight and air. It was in over-sheltered gardens where the hordes of Coccus first found a stronghold and commenced their attack on the wealth of the Azores; and such was the natural indolence of the proprietors, that they calmly watched the onward progress of the enemy destroying their property, without even making an effort to stop its career. It was with difficulty that English gardeners persuaded them of the cause of the evil, by pointing out Orange-trees free from the pest in more exposed situations. So many dear associations were connected with shelters, that it almost amounted to sacrilege to cut them down. At length, however, one by one they gave way; an onslaught was made on those least required, and the advantage derived was soon perceptible. In the gardens infested by these destructive insects their progress was checked, and the fruit of others was so much improved by the free admission of light and air, that their value was materially increased. Facts like these, therefore, will surely go far to convince reasonable people that all the light and air that can be had is required to produce Oranges in perfection under artificial treatment in this country.

The operation of planting will require a good deal of attention, as Orange-trees, when deeply planted, are subject to a kind of canker, which originates at the base of the stem; and though it works its way slowly, eventually destroys the plants. In order to avoid this evil it will be well to raise the soil where the trees are to be planted a little higher than the general level of the border, and this will afterwards admit of top-dressings to renovate the soil when exhausted, without there being any danger of too deeply burying the stems. Another important point will be to select strong, healthy, and well-established plants, particularly of the more tender kinds, for on the choosing strong plants success in a great measure depends. I have seen the bad effects of planting small and weakly trees in large houses. Time after time they have died, and hopes of the desired plant ever doing well despaired of, till at length some well-established specimen having been procured, the object aimed at was attained.

In order to encourage the growth of a house of young trees, so as to have luxuriant and fine-looking specimens, the temperature may be extended a little beyond what will be required when the plants come into a bearing state; yet any additional fire-heat beyond 64° must be applied with a sparing hand, as anything approaching forcing will be injurious.

In a house of this kind the temperature should never be below 50°, and, when rising in winter above 64°, if the external atmosphere be not too cold, admit air. With abundance of ventilation the summer temperature may range from 70° to 90°. Orange-trees, I infer (from their prolificacy and fine growth in the over-drained Island of St. Michael, where, sometimes in summer, rain does not fall for two or three months at a time), are not plants that require much water, especially at the roots; but it must be remembered that from the nightly heavy dews, and surrounding damp atmosphere, the trees are continually receiving an abundant quantity of moisture through the medium of their leaves. This, then, points out an important feature in the cultivation of exotic fruits. Heavy rains fall in St. Michael's from October to March, but the ground is so full of cracks and crevices, that in a short time the water is drained off again, so that the roots may be said to be always in a moderately dry state. It must not, however, be inferred from the above statements that I would have the exotic-house without water; on the contrary, a plentiful supply must be had, and copious showers given to the plants with the engine, or, what would be better still, have the water laid on the house, with taps and hose at short distances, which would be a great saving of time and labour. From May to September the trees should be engined early in the morning and in the evening, avoiding throwing water on the plants in bloom; also admitting near such plants as much air as possible.

The borders must not be often watered; the best way will be to examine them by digging in different parts, and when they are found to want water, let it be well but gradually given, so that every part may receive nearly an equal quantity.

I need scarcely say that all kinds of fruit-trees require to be carefully pruned. In pruning Orange-trees thin out all superfluous branches, so as to admit light and air to the fruit. All the pruning they require should be effected immediately the fruit is gathered (which should be as soon as it is ripe, for the fruit remaining on the trees long after it is ripe is injurious to the plants), cutting out the weak sterile-looking and worst-ripened shoots, at the same time having an eye to the symmetry of the tree. Thinning the fruit is never practised in the Orange-gardens in Portugal; yet it would doubtless be advantageous to trees, when over-cropped, to remove some of the fruit; nevertheless, if they are healthy, they will not suffer from bearing abundant crops.

REVIEWS.

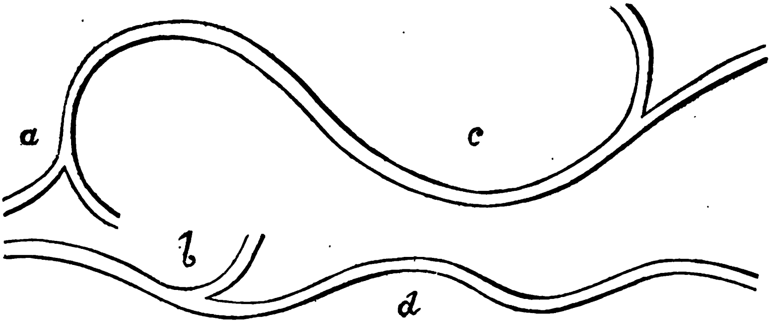
The Theory and Practice of Landscape Gardening. By Joshua Major, Knowsthorpe, near Leeds. London: Longman. 4to., pp. 204.

The author is not professedly a botanist, therefore has not attempted to write a scientific botanical book. He is a justly-celebrated landscape gardener, therefore what he has written is in relation therewith, and is the result of many years' observations and extensive practical operations. The details are to the point in hand, clear, useful, and valuable, and are in many instances illustrated by engravings, accompanied with plans of grounds, gardens, &c. The author appears to have endeavoured to give us what is essential for practical purposes on all the subjects treated upon; and has aimed to have nothing in his treatise that would be superfluous. We do not rank this publication among the best previously out on this subject; but as a useful, clear, and practical work, we think it is superior to any of its predecessors. We give an extract:

"On Walks.—Dry gravel-walks are indispensable for the enjoyment of scenery in the pleasure-ground. We should therefore begin by forming a good, firm, straight walk through the whole length of the retired fronts of the house, or the sides with which the carriage-entrance does not interfere. Such walk should not be less than nine or ten feet from the house, and exactly parallel with it, so as to afford room on the side next the house for vases, urns, basket-work, or other ornaments, to be placed in correspondence with what may be on the contrary side of the walk. This walk will also afford an important promenade when the weather is too doubtful to allow of a more distant stroll. The walks ancillary to the above should commence about the end of the building, bending very gradually from it—indeed almost imperceptibly, at least for a few yards. In all cases where it can be done, some part of the approach to the house-walk should be thrown sufficiently out to admit of the edifice being clearly seen in perspective, especially when the approach does not scan the house favourably: this is too often neglected. In many instances we see the beauties of costly edifices entirely lost to the observer, unless the house-walk is left, and the lawn traversed to view them. At the same time, it is of importance that the winding walk itself should be hid from the window view as soon as convenient; and in no case should the repose of the lawn in front of the house be injured by the walk passing through or round it. Moreover, it must be remembered that it is always in bad taste to look across two walks at one view; and, except in limited town gardens, or where the ground is sufficiently undulated to lose the farther walk from the windows; such an error is to be avoided.

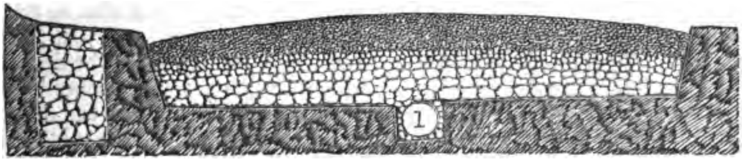
"In forming the width of the general or principal walks, we should have to be guided by the extent or magnitude of the place. A residence of great pretensions should have the terrace or house-walk from ten to fifteen feet wide; the principal winding walks from seven to nine feet wide; and the episodical walks, or those which divide the various compartments of the flower-garden, or others purposely set apart to afford scenes of themselves, of less dimensions.

"A moderate villa residence should have a house walk six or seven feet wide, and the principal winding walk about five or six feet. No pleasure-ground walks should be less than five feet wide; unless the house and grounds be very small indeed, or the grounds very precipitous, where a four or five feet walk would not only be more readily formed but would be more in character than one wider. In very abrupt rude situations, they should appear more like natural tracks. The principal walks uniting with the terrace-walk should become gradually narrower, until they soften imperceptibly into its proper width. But where a returning walk intersects the principal one, that would be a still better place for its change, provided the distance is not too great to continue the whole breadth. Walks in kept grounds of gentle undulations or of a level surface, should invariably be of long, gentle or graceful sweeps; not only because such are most beautiful and pleasing, but because they are less interrupting to the student, or reading pedestrian, than those of more sudden and numerous bends. At the junction of two principal walks, each should diverge gradually in an opposite direction from the other (*a*), which would be more in character than if both inclined one way (*b*). In many cases, a branch or subordinate walk should set off at right angles with the direct or general walk; of course



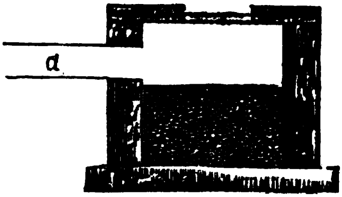
rounding the sharp points off. Steep rugged ground, or ground of abrupt folds, naturally demands that the bends of the walks should be shorter and more numerous, for the purpose of obtaining the easiest ascents and descents. In woods or thickets, a short bend in a walk would be proper and quite in character, especially if there should be a fine tree, bush, seat, precipice, or any other object requiring a deviation. In all cases, the bends of walks must be sufficiently deep or bold (*c*), to afford room for shrubs to be planted, so as to prevent the eye from looking over more than one bend at once. A walk, taking as it were one direct line, with numerous zigzag or serpentine bends (*d*), is objectionable in the extreme.

"In the formation of a walk, the earth should be thrown out to allow a depth of stone or gravel, of eight or nine inches; but, of course, if the soil be valuable, materials for forming the walk are plentiful, and expense is no consideration, there can be no objection to the soil being taken out to twice that depth. What I have named is sufficient to make a walk firm and dry, except in clayey and very retentive soil, in which case a drain should be made, six inches square, down the middle of the walk, and covered with a flag—or draining tiles may be placed there instead, as in the figure annexed. Then the whole breadth of the walk should be filled up with rough stones, broken bricks, dross, or other rough materials, to the depth of four or five inches, or to such a depth as to allow of three or four inches of small broken stones, averaging an inch or an inch and a half in diameter, being laid on the top of them; or gravel of a similar size would do, leaving room for about an inch only of fine gravel to be laid on the top. Care must be taken, in forming the level of the walk, to avoid the offensive barrel-like appearance which we commonly see; an inch and a half in the yard fall, from the middle



to the side, will be quite sufficient. Previous to laying on the fine gravel (if it is not of itself of a cementing nature), this foundation must be well rolled, and then have spread on it as much of the scrapings from limestone roads as will just fill up the crevices; or, if this cannot be procured, very small dirty limestone or chalk scrapplings, or equal parts of lime, sand, and road-scrapings of any kind, may be substituted with pretty good effect. In all cases, rolling is essential to keep the whole firm and smooth; and this, if done in summer, will be best effected a few hours after rain. In most cases, rolling in dry weather loosens the gravel, rather than otherwise; therefore, at times, it will be necessary to have recourse to watering. I consider it a very important feature in pleasure-grounds to have the walks firm and smooth, and quite free from loose gravel—an evil much too prevalent. It is indeed too common a practice to hoe and rake the walks; whereas, if they be hand-weeded properly (the weeds being on no account allowed to seed), and kept firm by rolling, the labour soon becomes trifling, in comparison with the slovenly and expensive practice just named. Hoeing and raking, by the way, never leave an easy, smooth walking path. Deep edges to the walk sides must be carefully avoided. They should never at any time show a greater depth, from the top of the turf to the gravel, than one inch; neither should the edges ever wear the earthy appearance occasioned by cutting with the edging-iron or spade, except more than perhaps once a year, to keep the walks to their true form and width, as it is quite possible to have them kept very even, and with the greatest neatness, with proper grass-shears.

"Where walks are formed on the sides of hills they are liable to be damp; drains, therefore, should be formed on the upper side of the walks and parallel with them, as in the preceding figure. Grates should be placed at proper distances, close to the walks, with receptacles to catch the sand and refuse which are carried from the walk sides by the top-water caused by heavy rains. Each of these receptacles should be about fifteen or eighteen inches square, and about a foot deeper than the drain which is to take off the water from it (*a*), in order that the sand may lodge below the mouth of the drain. They must also be frequently cleared out, so that the drain may not fill up. The drains which branch from the sump-hole or depôt may be taken to the drain in the middle of the walk, or to a principal drain elsewhere; or, in the absence of such principal drains, a suitable cesspool may be formed at a little distance. Grates, five inches by seven, fixed loose into a small frame of iron, wood, or stone, would afford sufficient room for cleaning out the pit; and this size would not be so offensive to the eye as larger ones. To make them still less objectionable, it would be better to fix them entirely in the grass verge, or as close to it as possible, and only a very little lower than the level of the walk.



"In situations where it is necessary for the walks to be very abruptly steep, small rises, like steps, should be formed, having the flats or treads three or four feet broad. This may be done by first placing a larch trunk across the whole width of the walk, to form the front of the rise, and then filling up the whole with fine gravel, or paving it with pebbles or very small paving-stones, in a gradual ascent, until it is necessary to place another trunk, and so on. If this is not attended to, such steep parts left in the usual way are liable to be disfigured and greatly injured by rapid runs of water; they are, moreover, actually unsafe.

"Grass walks are soft, cool, and inviting: a luxury in hot dry weather, but useless in wet weather. When room is plentiful, and the expense of keeping them in order no object, such walks may be formed through wooded scenery. In doing this, formality must be avoided; the walks should be of various or irregular widths — sometimes three or four yards, and others ten or fifteen — fringed naturally with bushes or shrubs and trees. In order to make a grass walk of this kind more generally useful, it must be kept closely mown and well drained."

We shall recur to this work in our next.

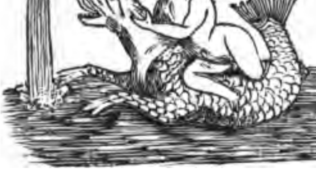
The Dahlia: its History and Cultivation, with Descriptions of all the best Show Flowers. By Robert Hogg. Groombridge and Sons, London.

Its practical details will be found useful to those who want to know how to manage Dahlias successfully. There are coloured figures of eight fine varieties of this flower. They are executed in a most superior manner by the very celebrated artist, Mr. James Andrews.

The Cyclopædia of Botany and Complete Book of Herbs. By Richard Brook. Huddersfield. 2 Vols. 12mo., pp. 734.

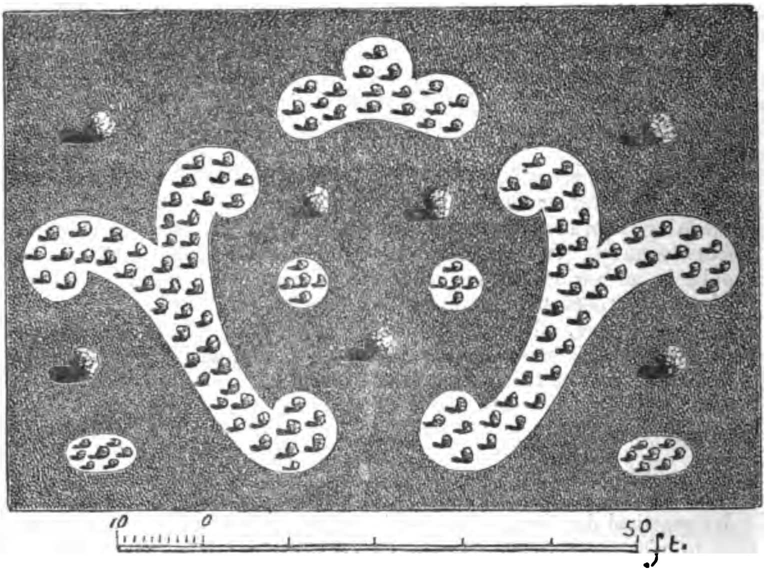
The object of the author appears to be to furnish the public with a useful and interesting Herbal at a very low price. He has accomplished this most satisfactorily. In addition to the 734 pages of entertaining letter-press, there are coloured figures of several hundred plants. It is worth a place in every family household.

DESIGN FOR A FOUNTAIN.—No. 1.



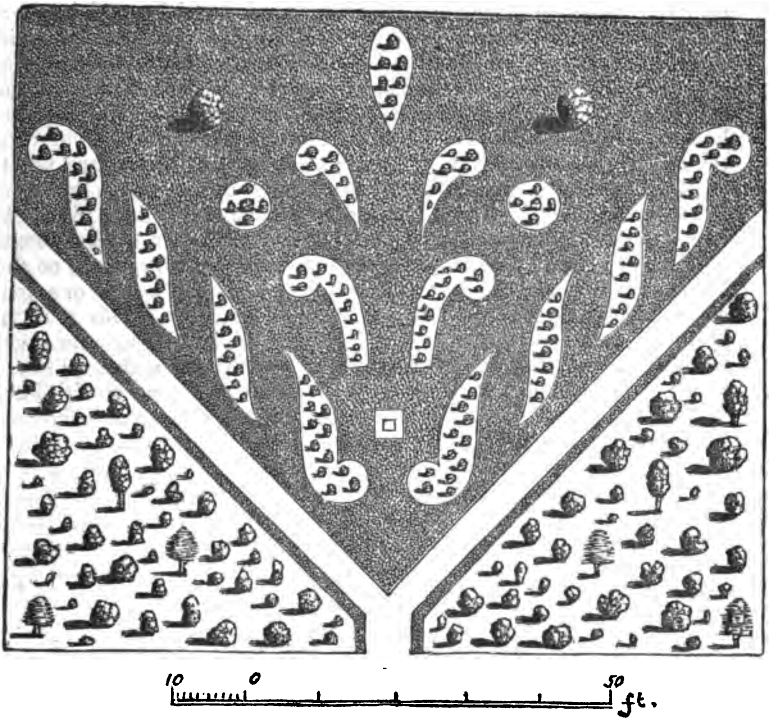
PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

Nos. 7 and 8.



The above group of beds, well filled with flowers on a lawn, opposite a drawing-room window, might prove an attractive object, particularly supposing the drawing-room to be upstairs, so as to look down upon the beds. The above sketch, however, being only simple in its outlines, may praw the attention of others to give more elaborate designs for the same purpose, according to the variety of taste which they may possess.

I have given this principally with the design to draw attention to groups in general, in opposition to the random way in which flower-beds may often be seen placed on a lawn. Frequently you may see the forms of stars, Maltese crosses, or diamonds, with other fanciful devices, placed here and there, without any order, or definite reason why they should be placed in the situations they are to be seen. However agreeable to the eye the outline of such designs as above alluded to may prove, yet to see them scattered over a surface without any kind of order, displays a deficiency of taste at once discovered by persons who have anything like correct ideas on the subject. With regard to groups in general, I think it will be agreed that to form them with their outline in scrolls, ovals, circles, &c., will be more pleasing to the eye than can be produced with figures in straight lines, such as crosses, &c., and which, by-the-by, are not so well calculated to throw into groups; they may pass off tolerably well in small places, where there is only room for a single clump; still, I think it will be conceded by persons of good taste, that forms varying from those made by straight lines are to be preferred. I would except small squares and parallelograms where they may be appropriated in connection with fixed straight lines on the ground given for laying out, but these are exceptions to the general rule I should pursue. I should like to see the subject taken up by others of superior judgment and taste, by which I might stand corrected in the views I have given of it.



The second design here given is intended for a corner group, where you are supposed to enter through a shrubbery to a lawn where the walks branch off at right angles from each other. A great variety of sketches may be given for the same purpose, and therefore those now given are only by way of specimens, to draw others to show their skill in giving designs.

MISCELLANEOUS SECTION.

Botany, to adopt the words of Professor Lindley, in his preface to the "*Introduction to the Natural System,*" "is a most extensive science, involving one hundred thousand gradations of structure, with myriads of minor modifications, and extending over half the organic world." In a science of such vast extent, it is not expected that the young gardener should be able to make great proficiency; but utter ignorance on the subject, which is but too common even amongst gardeners, who, in other repects, possess a perfect knowledge of their business, is quite inexcusable. He should, at least, obtain an intimate acquaintance with the principles of the Linnæan Classification, and should endeavour to entertain accurate notions of the Natural System also. Above all things, he should make himself familiar with the plants generally cultivated in the gardens of the wealthy, and, as far as possible, with the indigenous plants. With this view, he should seize every leisure moment for augmenting his Hortus Siccus, in the formation of which the following few simple rules may be useful. The specimens collected should be in full flower, and, if possible, should include both buds and seeds, the roots also in some cases are necessary. These are then to be carefully spread out on blotting paper, taking care not to alter the natural appearance of the plants; one or two of the flowers or leaves, on which depend the generic or specific distinctions, should be more particularly expanded. Over this lay five or six sheets more of blotting paper, and then another plant, till they are all spread; on this lay a smooth board, and place on it a weight—perhaps a stone or a stone and a half, which may be increased as the plants dry. This must be varied according to the nature of the plant under pressure, the more succulent requiring much less weight at first than those with hard stems. The plants should be taken out once a day, and the papers dried and made hot before the fire, after which they are to be placed as before, and this treatment continued until they are perfectly dry. Each specimen should then be fastened down on the inside of a sheet of demy or post paper, and the Systematic and English name, the place where found, and the date, written on the outside of the sheet. The Systematic name should also be written at the foot of the specimen. These may afterwards be tied up in bundles, each containing one of the Linnæan Classes, or an Order of the Natural System.

BRIEF REMARKS.

IXORAS.—These plants are very liable to be attacked by the mealy bug during winter; when the wood is ripe and leaves firm, syringe them once a fortnight in every part with water at 140 degrees of heat. This will destroy the insects, and not injure the plant, nor will it be infested the following summer. The Ixora should have shortish but well-ripened wood of the previous year, to supply you with a profusion of fine heads of bloom. A winter's rest is also essential to succeed satisfactorily. To which have a compost of equal parts of turfy peat, only broken into pieces, with a liberal sprinkling of sand, and pieces of charcoal.—*W. Barnes.*—*The Florist.*

COTONEASTERS AS STANDARDS.—A Correspondent, recently asking information in this Magazine relative to the *Evergreen Cotoneasters*, induces me to answer him by stating, I have four kinds of them, each of which now have heads three feet across, and the stems on which they were worked are four feet high. The stocks are Cotoneaster Acuminata, which is a *deciduous* plant. My evergreen tree-like ones are exceedingly ornamental when in full ripe berry. Their rich scarlet-red or purple crimson coloured fruit, produced in vast profusion, have a cheerful gay appearance from October to May. I procured two plants of each at first; one of each has a globular-shaped head, and the others have been allowed to extend their shoots downwards, and now form what may be termed "Weeping Cotoneasters;" the ends of the branches are nearly at the ground. Each form of plants are very pretty and ornamental.

FLORICULTURAL CABINET

AUGUST, 1853.

ILLUSTRATIONS.

PELARGONIUM MEDAILLE D'OR.

> "Let yon admir'd CARNATION own
> Not all was meant for raiment or for food,
> Not all for needful use alone;
> There while the seeds of future blossoms dwell,
> 'Tis colour'd for the sight, perfum'd to please the smell."

NUMEROUS have been the attempts to grow and bloom satisfactorily, in the beds of the flower-garden, what is usually called "the section of Show Pelargoniums," viz., such as the magnificent *large-flowered* varieties seen at the general exhibitions; but almost universal disappointment has resulted. For in a rich soil the plants produce a vast excess of foliage and but few flowers. In a poorer soil the plants become sickly, produce weakly shoots, and but a few small blossoms.

The following particulars of success, however, have recently appeared in the *Gardeners' Chronicle:*

BEDDING OUT PELARGONIUMS.—It has been a source of regret that the finest varieties of show Pelargoniums have not been found suitable for the decoration of our flower-gardens. Who can contemplate the splendid display of this beautiful tribe of plants at our metropolitan exhibitions, and not feel desirous that the same masterpieces of floral beauty could be made to assimilate with the Verbena, the Petunia, and other half-hardy plants, which throw so great a share of gaiety into our parterres during the summer months? But no; plant them out, and they literally run wild. Well, what must be done? are we to despair of ever possessing those gems of the greenhouse in our gardens? No; try again. Bring all your energies to bear upon an object and you must succeed. Well, I have tried and tried again, and have at last been successful, and I will give your readers the benefit of my experience. About this time a year or two ago, I took about 100 plants of the best varieties, such as Aurora, Mustee, Hebe's Lip, Mount Etna, Orion, Duke of Cornwall, Duchess of Leinster, Fire King, &c., all nicely coming into bloom, and planted them in three beds in the following manner:—Having got my plants well hardened off, that is to say, having fully exposed them to the influence of the sun and wind for a few days, I took a garden trowel, and dug a hole in the bed where I wished them to be placed of exactly the size of the pot, but nearly double the depth of it; the plant, pot and all, was then inserted in the hole in such a manner, that the rim of the pot was level with the surface of the bed, thus leaving a vacuity of several inches in depth at the bottom of the pot. In this way I proceeded with the whole of my plants, and no Pelargoniums could possibly produce a better display of flowers than they did throughout the whole of the season. The roots being confined within the pot, are as much under command as though the plants were in a greenhouse; and if any of them should show the least disposition to ramble, they can be taken up and examined at any time; besides, under the conditions I have just mentioned, a fresh arrangement of the plants might be made with nearly as much ease as if they were on a stage in the greenhouse, and without the least injury to them. It is true, Pelargoniums planted in this way require a little more attention as regards watering than plants do turned out of pots; but then the cultivator is amply repaid for all extra trouble by abundance of blossom. Hoping that others may be as successful as I have been with the above method, my recommendation to all is to try my plan.—*A. K., Stoke Newington.*

Subsequently other communications have been sent, the writers stating "they have practised the same mode of treatment, and the plants bloomed abundantly." And plants that *have bloomed* in the greenhouse in the spring, being put into the beds soon after the blooming is over, push afresh and flower freely during the latter part of summer, and autumn too.

Nearly all the class of Pelargoniums called "Fancies" succeed admirably turned out of pots and grown on the open ground, but they are not suitable for all circumstances, not being tall enough, or have blossoms as large as may be desired. Recently, however, a new section, of medium habit in growth, with large flowers, and free bloomers, has been raised; the flowers, too, are of fine form, both rich and beautiful in colours; they are termed the "Diademetum section."

Many of our readers know how beautiful a *well-filled* bed of the "Diademetum Rubescens" is, with its profusion of bright rosy-red large flowers; a charming improvement, however, has been effected in obtaining a number of seedlings of similar habits, with flowers of much more brilliant colours, and strikingly handsome in *every petal,* having a spot or blotch of crimson-velvet, or other very distinct colour, in the centre. Thus each blossom, having five such distinct spots (similar to Hoyle's Nonsuch), renders a bed of them one of the loveliest the flower-garden can contain.

The florists of France and Belgium have been endeavouring for several years to improve the "Diademetum" by hybridizing; and the beautiful varieties above referred to have been selected from a great number raised by the gardener of Mr. James Odier, in France, who sent them to the National Society's Floral Exhibition, held in Paris last November, and they were then purchased by Mr. A. Meillez, nurseryman, of Esquermes, near Lille, in France, who has propagated them, and is now sending out ten very superb varieties. (We gave particulars of colours, &c., in our April and May Numbers.

The variety we now figure is one of the seedlings, which, for its brilliant and rich colours, borne in profusion, was the admiration of all who saw it at the exhibition; and is one of the finest bedding varieties existing. It is well entitled to the name given, "Medal of Gold." Its medium habit of growth, free blooming properties, as well as the size of its brilliant flowers, alike contribute to recommend it, as well as the other varieties offered, to all who desire to beautify and ornament a greenhouse or flower-garden.

NOTES ON NEW OR RARE PLANTS.

Azalea crispiflora.—Mr. Fortune introduced this pretty blooming plant from China, and it has bloomed in the greenhouse of Messrs. Standish and Noble's nursery at Bagshot. It is a medium-sized, numerous-branched shrub, which blooms very copiously. Each blossom is about three inches across, of a deep rose colour, and the margin of the blossom is remarkably waved and crisped, having the appearance of a frill. Figured in *Botanical Magazine*, 4726.

Lilium roseum (Synonyme, Fritillaria Thomsoniana. Lilium Thomsonianum).—It is a native of South America, discovered by Messrs. Thomson and Strachey. Seeds were sent to the Kew Gardens, and the plants bloomed, last April, in a cool frame. The leaves, in form, rather resemble those of a narrow-leaved Hemerocallis, than a Lily or Fritillary. The stem, including the flowers, rises about half a yard high, terminating in a raceme of about ten handsome drooping flowers of a pretty lilac colour. They are, in form, between a funnel and bell shape, each blossom being nearly two inches long. Very neat and pretty. Figured in *Botanical Magazine*, 4725.

Littonia modesta.—A climbing plant of similar habit to the Gloriosa superba; but the flowers are very different. The flowers are drooping, and each blossom is somewhat bell-shaped, having six rich orange coloured sepals, an inch and a half across. It is a native of Natal, and has recently bloomed in the stove in the Royal Gardens of Kew. Figured in the *Botanical Magazine*, 4723.

Lopezia macrophylla (Synonyme, L. grandiflora).—Sir W. J. Hooker states, "Received from Mr. Van Houtte, under the name of *Jehlia fuchsioides*." It is a small *half-shrubby* plant, having fleshy tuberous roots like the Fuchsia fulgens. The leaves, too, are like those of some of the common Fuchsias. The flowers are produced at the ends of the shoots, each having ten or more; and the long segments of the *calyx*, as well as petals, of a bright red colour. The form of each blossom, when fully expanded, is bell shaped. The plant is a native of Mexico and Guatemala, and blooms freely in the greenhouse at the Royal Gardens of Kew. Interesting and pretty. Figured in the *Botanical Magazine*, 4724.

Semiandra grandiflora.—This is a remarkable genus, allied to Fuchsia, with singularly-formed (father long-legs like) flowers, of a bright scarlet colour; the coloured calyx constitutes nearly the entire flower. It was discovered by Mr. Seeman, in the temperate regions of North-western Mexico, growing among Galphimias, Tupas, Cupheas, and Lobelias. It is a half-shrubby, erect, branching plant, growing about six feet high, and blooms very freely; each blossom is two inches across. It is in the Royal Gardens of Kew, and it began to show its blossoms in March, 1853. It bears, too, a profusion of fruit, which adds to its interest and beauty. It merits a place in every garden. Figured in the *Botanical Magazine*, 4727.

Xanthorrhœa hastile. **Spear Yellow-Gum.**—A native of Australia, known as the Gum-tree, or Grass Gum-tree. *Yellow Resin* is the product of this plant. The caudex (trunk) is short and thick, and the central scape (bearing a terminal brown spike, like a Reed mace) rises to about twenty feet high. Its long grassy-like leaves and tall scape render it an interesting object. There is a plant in the Royal Gardens of Kew. Figured in the *Botanical Magazine*, 4722.

Hoya fraterna.—Its specific name, *fraterna*, is given in allusion to the close resemblance the plant has to Hoya coriacea. The blossoms of H. fraterna are pale pink, with a lighter narrow margin, and the centre crown is yellow. It is an interesting and pretty flowering plant, and, like all the genus, deserves a place in every stove or warm greenhouse.

Lapageria rosea.—Messrs. Veitch have a plant of this most beatiful flowering climber trained to a trellis, so as to form a bush four feet high, with fifteen of its handsome blossoms expanded. It was shown at the Horticultural Society's Exhibition, at Chiswick, on July 9th. It was admired by every person who saw it. It is now supposed to be hardy, if planted in a soil and situation having the roots protected during winter. It will prove to be one of the finest plants for training against a wall or trellis, shaded from midday sun; or in the greenhouse, in a shady part. It ought to be in every garden where it can be properly accommodated.

Veronica variegata.—An hybrid, between V. salicifolia and V. speciosa. It is as hardy as the parents, and will be a charming ornament for either the greenhouse or open air, in dry soil and situation. The flowers are in long spikes, and the variegation is displayed by them. The flowers at the lower part of the spike are white, the centre portion of a French lilac, and the upper part of a pretty pink. Messrs. Veitch possess the plant.

Ceratostema longiflorum.—The plant has much the appearance of a Vaccinium of medium size, and evergreen bushy shrub. The flowers are produced in loose terminal clusters; each blossom, somewhat trumpet shaped, about two inches long—the lower portion of a bright orange, and crimson-purple above. It has been considered a stove-plant; but will succeed well in a greenhouse.

Delphinium Beauquarto.—The flowers are produced in long spikes, of a light blue, each blossom having a white stripe and white tip at the end of each segment. It is exceedingly neat and handsome.

D. pictum.—The spikes are about three feet high. Flowers, sky-blue, striped with white. The outside of the blossom is almost white. Very beautiful.

D. azureum pleno.—A rich sky-blue, with a rose stripe up the middle of each segment. The spikes of blossoms about three feet high. Very pretty.

D. Benute de Charrond.—The flowers are of a brilliant sky-blue, each blossom nearly two inches across. The centre (Bee) is purple, with a yellow spot. The spikes are about three feet high. Very beautiful.

D. spectabile.—The flower-spikes three feet high. Each blossom is of a light blue, with a stripe of purple up each segment, and the outside of the blossom nearly white. Very pretty.

D. splendidum.—The spikes are from three to four feet high. Each blossom nearly two inches across, a light blue, with a rosy-purple stripe up each segment, and a tip of the same colour.

D. versicolor.—Grows two and a half feet high. Each blossom is on the outside blue, with a green tip to each segment. The inside a rosy-purple, with blue streak up each segment. The flowers are very compact, and close at the face. Singular and pretty.

D. Mooreii.—It grows about two and a half feet high. The flowers are of a brilliant blue inside, and the spur is purple. The centre (Bee portion) is yellowish. Very handsome.

D. mesoleucum superbum.—Grows about two and a half feet high. Each blossom is of a brilliant rich blue, with the centre (Bee) sulphur and white. Very handsome.

Linum grandiflorum. — An annual, with brilliant crimson flowers; is in bloom in the garden of the Horticultural Society. It is very handsome; but appears of delicate growth.

Geranium pratense flora-pleno. — This very handsome, hardy, herbaceous plant grows about eighteen inches high, bushy, and blooms profusely. The flowers are produced in terminal branching panicles, each blossom being a full double, one inch and a half across, blue, with a rosy-red centre. It merits a place in every flower-garden, blooming during the summer season.

Campanula trachelium bicolor-pleno. — This charming, bushy, hardy, herbaceous plant grows about two feet high, of neat habit, and blooms in profusion. The flowers are bell-shaped, large, full, double. The outer row of petals are lilac, the second white, with a lilac stripe up the middle, and the rest of the petals a pure white. Each blossom is about two inches long, and one and a half broad, very double, and very handsome.

Lythrum salicarium roseum superbum.—This, too, is a hardy, herbaceous plant, producing numerous long spikes of bright rosy-crimson flowers, which rise to about three feet high. It is handsome and very showy.

Dracocephalum canescens.—A hardy, herbaceous plant, producing numerous long spikes of bright blue and purple flowers. It is of compact growth, eighteen inches high. Very handsome.

NEW OR SHOWY PLANTS IN BLOOM IN THE ROYAL GARDENS OF KEW.

Campanula Vidallii.—This fine Campanula we figured in our last years' Volume. It is of shrubby habit. The flowers are *large*, long, bell-shaped, and of a "waxy-white." A plant of it, in a cool greenhouse, has fourteen long spikes of flowers, now about to bloom; and when in full bloom, will have a very charming appearance. The plant merits a place in every greenhouse or flower-garden.

Dracocephalum peregrinum.—Hardy, herbaceous, spreading, grows nine inches high. Flowers borne in long spikes, in profusion, a bright blue. Very pretty.

Vittadenia triloba.—Hardy, herbaceous, spreading. One has spread two feet across, and it rises from the outside to the centre, where it is about nine inches high. The entire surface is closely covered with true Daisy-like flowers, white, pink, or rose-coloured; and each blossom is about three-parts of an inch across. It is very pretty, and exceedingly interesting. A charming plant for an edging to a flower-bed, or grown in patches. It blooms for a long period, too.

Onosma taurica.—Hardy, herbaceous, one foot high. Flowers yellow, tube-formed, two inches long, similar to the Cerinthe major. Very pretty.

Aquilegia siberica.—A charming Columbine, growing two and a half feet high, bearing a profusion of large, deep-lilac coloured flowers. Very showy.

Aquilegia fragrans.—Two and a half feet high, having very large flowers, the outside blue, and the interior white. Very showy.

Papaver pyrenaicum.—This charming, hardy, herbaceous species grows a foot high, forms a neat bushy plant, having pretty foliage, much like that of the Escholtzia. The flowers are of a very bright yellow, three to four inches across. It is very neat and pretty, and in profusion is very showy.

Symphytum Bohemium.—A neat Comfrey, one and a half feet high, blooming in profusion, having very pretty rosy-crimson flowers.

IN THE GREENHOUSE, &c.

Gloxinia fimbriata.—A fine pot of this very handsome plant (the Achimenes fimbriata of some) is in fine bloom, the large blossoms white and yellow, beautifully spotted with dark, render it strikingly handsome. We gave a figure of it two years ago, as Achimenes fimbriata.

G. Madame Charty.—White, and a sulphur-coloured throat, edged with lilac and crimson. Very pretty.

G. Dr. Gardner.—Pink, with a broad white throat edged with carmine. Very pretty.

Achimenes Marguerette.—The blossoms are pure white, each a little larger than a shilling, and makes a pretty contrast with the coloured flowers of others.

Pelargonium Boule de Neige.—This is one of the Horse-shoe Geraniums (so called). The flowers are of excellent form, good substance of petal, white, with a slight tinge of flesh, *occasionally* on the two upper petals. It was sent out by Messrs. Henderson, of Wellington Nursery, and well merits a place in every collection.

Hydrolea Chittrya.—An erect-growing plant, about two and a half feet high, the shoots terminating in a head of rich blue flowers, each blossom being about three-parts of an inch across. It is very pretty, and worth a place in every greenhouse.

Gompholobium splendens.—By stopping the leads, it forms a very neat bushy plant. The flowers (pea-blossom like) are of a bright yellow, each one inch across. Very neat and handsome.

Pelargonium bicolor roseum.—A neat, low, bushy plant, with foliage like the Otto of Rose (Geranium). The flowers are produced in heads of several in each, white, and each blossom has five dark spots. It blooms freely, and is very neat and pretty, either in the greenhouse or flower-beds.

Datura cornigera (Brugmansia of some).—A very branching, shrubby plant. Those of two feet high and upwards bloom freely. The flowers are white, each about eight inches long, similar in form to the B. suaveolens. It is very pretty. The B. **Knightii**, also a branching-shrub, blooms freely, and its large, double, pure white, fragrant blossoms are very handsome, and small plants blooming freely render them charming ornaments for the greenhouse, &c.

Roellia ciliata.—A low, neat, bushy plant, blooming very freely. Each blossom, bell-shaped, with the mouth upwards, of a light blue, with a velvet girdle inside, is very pretty. It merits a place in every greenhouse.

ERICAS, THEIR TREATMENT IN ALL SEASONS, AND THE NAMES OF A FEW OF THE BEST VARIETIES FOR GENERAL CULTIVATION.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

In the last number of the *Cabinet* I gave the article on *Epacris*. Now, as Ericas and Epacris are closely connected, I am induced this month to offer for the perusal of your readers an article on the favourite family of Ericas; little doubting but it will assist many of the readers of the *Cabinet* to grow the plants to that state of perfection to which such charming plants are entitled.

Ericas, in general, are not grown as they should be; in fact, there seems to be a kind of dislike to them by persons unacquainted with their proper treatment. The excuse with them generally is, "I take the greatest of care of them, but still they soon get yellow and die." But to do away with that disaster, pursue the following method of treatment, and you will certainly grow them successfully, and have plants that are healthy, and bloom vigorously in their due season. My remarks on their management will commence from March, it being the principal season for potting.

Potting is the first and principal feature in their culture; there are heath growers that adopt what is termed the "one shift system," that is, to take a strong young plant and shift it at once into a very large-sized pot; but I beg to protest against such usage. A far better plan to adopt is the system of shifting a plant when its advancing growth requires it. For instance, supposing a plant in March is in a four-inch pot, the size required for the shift would be not more than five inches, as it is far better to give a heath two shifts in one season than over-pot it. The space between the ball of the plants and the pot it is to be shifted in should be from half an inch to an inch, according to the size and natural vigour of the plant. The plant, if it is doing well, may have the second shift in the same season if the pot be tolerably filled with roots.

THE SOIL best suitable for heaths is good peat from the moors, taking the top about three inches thick. It should be broken in tolerably fine pieces for the first stages of potting, increasing its roughness as the plant increases in growth. All that requires to be removed from the peat when broken is the largest of the *fern roots;* such are generally found in good peat, but all the fine fibrous masses should remain, as that constitutes the best for the purpose. When the peat is so prepared, add about *one fourth* of silver sand; but the sand before it is mixed with the soil should be well washed in fresh water to remove all impurities. It matters but little as to its colour if it is but sharp and clean. The pots used should be thoroughly cleaned; the crocks for draining be well washed before using, to remove all dirt that may be on them; then place a large crock over the hole in the bottom of the pot, placing a few large ones around it, and finally finishing with smaller ones, and place over the whole some of the roughest fibre from the peat to keep the drainage free; then turn the plant carefully out of the pot, remove the old crocks from around the roots, and a slight portion of the surface soil that may be loose, without disturbing the young roots. In placing the plant in the fresh pot, the centre should be slightly elevated, say level with the rim, but not by any means higher, and gradually slope away to the side of the pot which should have left for sufficient watering a depth of half an inch or more, according to the size of the plant and pot. The soil should be well pressed down around the ball, with a small piece of wood, to fill it up regularly around. I must also observe that the ball of roots should be well watered, *if dry,* before potting, so that it may be wet throughout, as it will be very difficult to do so after potting, as the water would pass away rapidly through the new soil, and the consequence would be a loss of foliage, and the plant be disfigured After potting, little else is required until the season arrives for their removal out of doors, but attention in watering and arranging the shoots. In summer they should be removed out of doors; the situation best adapted for them would be the shady side of an evergreen hedge, where they would have as much air as necessary, and at the same time be protected from the scorching rays of the mid-day sun. A situation where they would have the sun for a short time in the morning, and again in the evening, would be of service to them; this might be accomplished by means of a canvass, or other screen, if there was no other. The pots may stand on a bed of coal ashes made solid to prevent worms, &c., rising through.

Great care is required in watering Ericas, even in *summer;* all they require is the soil *just kept moist,* "*not wet,*" for, above all other plants, they do not like to be treated as *aquatics.* As a superabundance of water will sodden and turn the soil sour, also exclude air from the roots, —the result is the loss of foliage, and finally the loss of plant. During the season out of doors, the plants must be kept clean, and the bed of coal-ashes at times stirred up afresh, with a slight sprinkling of fresh ashes added. The latter end of September or beginning of October the plants must be removed to their habitation, when the plants must be thoroughly cleaned, the pots washed, and the surface of the soil made clean. If mildew make its appearance at this or any other season, dust the parts affected with sulphur of vivum ; it may remain on the plant for a few days, and then be syringed off. Ericas may be wintered in a greenhouse with other plants, such as Epacris, Camellias, &c., and they may be arranged at the coolest end of the house. Those persons who wish to grow a small collection, who have not the convenience of a greenhouse, may do so quite successfully if there be the advantage of a plant pit, or frames. The treatment they will require in such a situation is to give them as much air as possible, and at all times, when the temperature is not under forty degrees, just to protect them from frost. Mats should be laid over the lights, and a thick layer of straw to keep out all frost from the plants, and when the days are fine take advantage of the same, and remove the lights off, if only for an hour; but if too severe by day even to remove the lights and give air, the straw and mats may be removed to give them all the light possible. Very little water is required while the plants are in the greenhouse or pits; in fact, the humidity of a close house or pit at this season is nearly sufficient to keep the plants in as moist a state as is required. By keeping the plants clean during winter, and pursuing the above directions, that is all they will require until the potting time in March arrives, when do as before recommended. Before closing my remarks, I may as well add that Ericas require a *dry atmosphere, plenty of air, and little sun,* and if the above direction on their treatment be duly attended to, I am certain that we shall see healthier and far better plants grown in private collections than is at present seen to be. I shall close my article on this charming family of plants with the names of a few good Ericas sufficient to form a small collection :

Aitonia.
ampullacea Major.
aristata Major.
Beaumontia.
cerinthoides Coranta, S.
Cavendishii, Y.
depressa major.
Devoniana.
dilecta.
elegans.
favoides elegans.
Hartnellii nana.
inflata rubra.
Irbyana.
Jasminiflora.
M'Nabbiana.
mutabilis.
obbata.
odorata.
perspicua nana.
Princeps carnea.
,, *templea.*
Jacksonii.
tricolor Dunbarri.
,, *elegans.*
,, *speciosa.*
ventricosa coccinea minor.
,, *globosa.*
Vernonii superba.
Webbiana.

The above varieties are not at all difficult to cultivate; they may be grown in either greenhouse, pit, or frames, in winter, are free flowering, and of close ornamental growth.

Some of the heaths have a natural tendency to grow erect, and become naked below; but any such can be made compact bushes by stopping the shoots once, or in some cases twice, during the season of growth.

HYACINTHS GROWN IN THE OPEN BED.

BY SHARON JOHNSTONE, AN AMATEUR FLORIST.

I HASTEN to fulfil my promise by rendering an account of the method observed by many amateurs and florists in cultivating Hyacinths in beds and pots, and which is adopted by me as being the most preferable. The observations I am about to offer thereon should be as succinct as the subject admits, and be strictly confined to practical results, for mere theoretical statements in this, as in nearly all other matters, bewilder rather than instruct. Being an enthusiastic admirer of the flowers, I have taken no ordinary pains to produce a good bloom, and can, therefore, the more confidently suggest a few hints respecting the culture of it. It has always appeared to me, as well as to many with whom I have conversed upon the subject, to be a matter of regret that comparatively so little attention should be bestowed on this flower: the Tulip has numerous fanciers, and so have Carnations and Auriculas, whilst the Hyacinth, though not inferior in beauty, seems, as to blooming it in beds, to be too generally neglected; and yet a more beautiful object amongst all those which attract the eye in a flower garden is rarely seen. The effect produced by a glance at an assemblage of so beautiful a flower, especially when well arranged, is dazzling, and a close inspection will be found to increase the gratification derived therefrom, added to which the fragrance emitted by them is peculiarly sweet, and is not surpassed by the Mignonette or the Tuberose.

The most eligible part of a garden for a bed is that with a southern aspect, and considerably distant from trees and large shrubs, as the droppings to which plants beneath are subjected, prove extremely prejudicial; the season for planting is during this and the following month, the precise time being indicated by the appearance of the root itself, which I noticed in my remarks that were inserted in a late Number; a repetition of it therefore is unnecessary. The portion appropriated should be excavated to the depth of about two feet, the earth at the bottom loosened and rendered fine to about six inches deeper, and then raked smooth. Tthis process will take but little time, and may be attended with advantage; the hollow should then be filled with the following compost: one-third of good garden earth; one-third of sea or river sand, as coarse as can be obtained; one-fourth rotten dung, about three years old; and the remainder vegetable mould.

The earth used in the compost will require minute examination, in order that vermin may be exterminated, of which the most destructive, and the most likely to elude detection, is the yellow wire-worm.

When preparing the compost, let its several parts be well mixed; this should be performed a few weeks before it is needed, and will require turning over several times. After the bed is filled up add more compost till it is raised three or four inches above the walk in front, and let the height of the back part be an additional six inches, so as to form a slope to the south; a layer of sea or river sand, one inch thick, should be spread over the surface, and if a tasteful arrangement be desired, the place for each bulb should be marked thereon. The following order appears the most natural, and has decidedly the best effect. Let the rows be six in number, and eight inches apart, and allow the distance between the bulbs, and four inches from the four outer rows to the limits of the bed. On the layer of sand in the places appropriated to them, let the bulbs stand in the following position throughout; red, blue, white, red, &c., commencing with a red in the first row, and in the second with a white, which place under a supposed point equi-distant from the red and blue above it; the next root will consequently be a red, and under the point between the blue and the white; in the third row begin with a red, as in the first, and let it be directly under the red, in that row, the blue following it, will be beneath the white and red of the second row; the fourth row will commence with white as the second, and be directly under it: the red in the next place will be under the blue and white of the third row, &c. This mode allows the greatest possible diversity, and each bulb, except the outer ones, will be in the centre of a hexagon. In this arrangement yellow Hyacinths may be considered as white. Then cover them with a mixture of fresh earth and sand, three or four inches deep; the latter depth is the proper one for the earlier roots, as it will retard their progress, so as to bloom with the later ones; an attention to this is requisite to ensure all blooming together. When covered the bed will be completed, and if bordered on the sides, will add much to the neatness of it, or if preferred, brickwork may be substituted, and hoops placed over the beds, will be useful, as mats can be thrown over the beds, during severe frosts or heavy rains; but for slight frosts, as the Hyacinth is hardy, no covering is necessary, and rain, when not violent, is beneficial; the autumnal rains are, except in very dry seasons, sufficiently copious to obviate the necessity of artificial watering.

A few bulbs or reserves should be planted in pots at the proper time, and plunged in order to supply deficiencies that may occur, for some bulbs whose appearance indicate no symptoms of decay, are rotten at heart.

It will be proper to plunge them, and this may be done in the ordinary way, by placing the roots three or four inches asunder, then filling up the interval between, and afterwards covering them from six inches to a foot until the return of spring; but the greatest care must be previously taken to examine the earth, otherwise though but a single wire worm, or other noxious vermin remains, the roots are in jeopardy. Or another and much safer method may be adopted; instead of earth, let cinder ashes be substituted in its stead, place the pots on layers of these, six inches thick, fill up the space between, and cover them as mentioned above. By this means no insect can approach the pot, so that if the compost in which the bulbs are planted to be free from them, no injury need be apprehended; they will now be safely lodged in their winter quarters, and by due attention will be a provision to supply deficiencies. They can be easily turned out of the pots into the bed.

REMARKS ON THE HONEY BEE AND THE GARDEN.

BY APIS.

THE poet invites the honey bee to fragrant tufts of the wild thyme, the head of the cowslip, the bell of the lily, and the bed of violets, and again he says:

> "Come, honey bee, to our woodlands come,
> There's a lesson for us in thy busy hum;
> Thou hast a treasure in store in the hawthorn wreath,
> In the golden broom and the purple heath;
> And flowers less fair,
> That scent the air,
> Like pleasant friends, drop bloom for thee;
> And thou winnest spoil
> By thy daily toil,
> Thou patient, and thrifty, and diligent bee."

In many of our gardens there may be grown a greater number of "flowers for the bee" than we commonly meet with in various parts of the country. In order that our supply of honey may be increased, the bee has often to wing its way far from home to obtain that sweet viscid substance which it elaborates from the juices of the nectaries of flowers, and deposit in the waxen cells of the honey-combs. By cultivating to a greater extent such plants as produce honey for the bee, we may look upon our gardens as a portion of our sugar plantations, for we are told that pure honey consists of a syrup, or uncrystallizable sugar, and of a solid or granulous sugar which resembles that obtained from the grape. Besides,

> "We may learn from the bee, the wise man's lore,
> 'The hand of the diligent gathereth store;'
> He flies in his calling, from morn till night,
> Nor tires of his labours, nor flags in his flight;
> From numberless blossoms of every hue,
> He gathers the nectar and sips the dew.

INCREASING THE SHOOTS FOR LAYERING, OR OTHERWISE PRESERVING, THE CARNATION, OR PICOTEE.

BY A COUNTRY CURATE.

As it is frequently the case that a *weakly* layer or piping of Carnation is lost in consequence of its only sending up a flower stem and no side shoots, and as the time is now approaching that every admirer of that beautiful flower will gratefully receive any intelligence respecting its cultivation, I beg (with deference) to communicate a plan that I have adopted with universal success. It may not be novel to some, although I have never heard of its being practised by any one, till from reasoning and observation as to the result, I made trial of it myself, and have this year two plants with four or five side shoots, besides having the pleasure of the blossom last year; whereas if the flowering stem is cut down early it sends up another and dies; if left till the bloom fades, your plant is almost sure to perish, notwithstanding the greatest care.

In the month of July an incision is to be made as for layering, except that it is to be commenced above one of the lower knots and carried downwards; the current of sap being thus divided, one half nourishes the flowering stem—the other, finding a check, sends forth a shoot or more, thus saving your plant.

RAISING TROPŒOLUM TRICOLORUM FROM SEED.

BY A PRACTITIONER.

Many of our readers are aware of the great difficulty of getting seeds of this plant to vegetate. I have practised the following method for several years with constant success. Take the seeds and place them in the pans belonging to the pots commonly used in gardens, filled with water, and let them soak for two or three days, till the shell which surrounds the interior of the seed will come easily off. After removing the shell, which requires to be done with great nicety, or you will injure the principal point of the seed, prepare some pots, filled with some good rich compost, composed as follows: two parts good decayed leaf-mould, one part hazel loam, and the fourth part of equal portions of bog-earth and sand, which mix well together; fill the pots about three parts full, or rather more, of this mixture; then place the seeds on the top, (not too many, or you will not be able to remove the plant after it has formed a tuber,) and fill the remaining part with fine white sand, giving it a gentle pressing. Then remove the pots to the cool greenhouse, and place them in as shady a place as you possibly can, without anything being kept too close to them. Keep the pots always in a damp state; but mind when you sow the seed to place plenty of drainage at the bottom. As soon as some of the plants appear above the soil about one or two inches, take a small stick, and lift the seed from the soil, moving as little as possible the other soil, or you will injure the remaining seeds. Pot the young plants into the size pots called thumbs, which afterwards treat the same as for old plants in a growing state. The seedlings thus raised will flower the succeeding summer, and the year following make good established plants. Should any further remarks on them be required, I should be very glad to send them.

PROPAGATION OF PLANTS FROM BUDS.

BY AN AMATEUR PLANT GROWER.

In the month of March, 1852, I disbudded several plants of the "Daphne Laureola," and left the buds scattered on the ground beneath. A month or five weeks afterwards I was not a little surprised to find that they had almost all sent out roots. This hint induced me to make experiments upon other plants; and at the end of April I took several slips of the "Lagerstræmia Indica," a stove shrub, which had just burst forth, and had advanced to the length of from twelve to twenty lines, taking care to reserve with each a small portion of the parent bark. I then stripped them to the extent of seven or eight lines from the base upwards, and planted them in a pot filled to the depth of two inches with broken potsherds, and above with a compost, two years old, of willow mould, the refuse of the vintage, and pit-sand well washed. They were then well watered, and placed in a hotbed under a bell-glass, and care was taken to shade them and give them air when necessary. The first fortnight several damped off from the glass, not having been properly attended to; but on the twenty-second day after they were planted, I found that the rest had passed from the herbaceous to the half-woody state, and the terminal bud seemed to announce that there would shortly be a rise of the sap. Six days after this I pricked them out into small separate pots, and discovered that each had made a thick tuft of roots, and twenty-seven out of thirty-eight succeeded completely. I tried the same plan, and with equal success, upon four varieties of the "Metrosideros," upon the "Melaleuca," "Clethra arborea," and "Magnolia grandiflora," besides Acacias, Roses, and many other stove and greenhouse plants. By this means I have obtained a considerable number of plants fit for sale, if so inclined, in the course of twelve months, remarkable for their strength and beauty, and from eighteen to twenty-four inches in height.

This simple method, I think, may be applied to all kinds of plants; and, as I have never seen it alluded to in any horticultural work, I venture to think that, if you consider it worth publication, it may be of some service to practical gardeners.

[We have seen this method practised with admirable success in a small nursery near London.]

THE ROSE-BUSH AND THE LEAF-EATER.

BY MR. PETER MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

A cottager's wife has a favourite Rose-bush, and she bestows much care upon it, that she may have plenty of roses for herself and her town relations; but she was vexed lately to witness the leaves of her beloved plant cut up in a manner she had never seen before. She tried to find out who had done the mischief; and as she watched from time to time, she discovered what she thought was her own bees busy at work cutting the leaves of the plant to fragments, and flying off with them. She told her husband what she had seen, and wanted to know what was the reason that their bees had left off working among the flowers and commenced clipping the leaves of her rose-bush to pieces. He went and saw them at work, but he soon saw that it was not their bees that were doing the injury, but a different kind of bee altogether. It was the "Leaf-eaters" that were at work among the rose-leaves, viz., the *Apis centuncularis* of some naturalists. The following notice respecting their mode of cutting the leaves may be interesting to some of your readers:

Nothing can be more expeditious: they are not longer about it than we should be with scissors. When the insect has selected a bush furnishing the leaves required, she keeps hovering over and flying round it, until she has discovered the leaf best adapted for her purpose. When she has chosen the leaf she alights upon it, sometimes on the upper surface, sometimes underneath it, or at other times on the edge, so that the margin passes between her legs. As soon as she has made a beginning, which she usually does near the main nerve, she continues cutting with her mandibles until the work be completed, and as she proceeds she keeps the margin of the detached part between her legs, those on the one side being above and the other below, so that the section keeps yielding to her, and does not interrupt her progress. She makes her incision in a curved line, approaching the rachis at first; but when she has reached a certain point she keeps receding from it towards the margin, still cutting in a curve. When she has nearly detached the portion she has been employed upon from the leaf, she balances herself, lest its weight should carry her to the ground; and the moment of its parting from the parent stock she flies off, the detached portion remaining bent between her legs, and being perpendicular to her body. She pursues the same mode whatever the form or size of the piece necessary for her purpose. A careful observer may discover Rose-tree leaves cut with great exactness, and have the pleasure of seeing with what dexterity a bee, destitute of any mathematical instrument, cuts out a circular piece, fit to be either the bottom or the lid of one of their nests. Others it cuts out into ovals and semi-ovals, which form the sides of their nests.

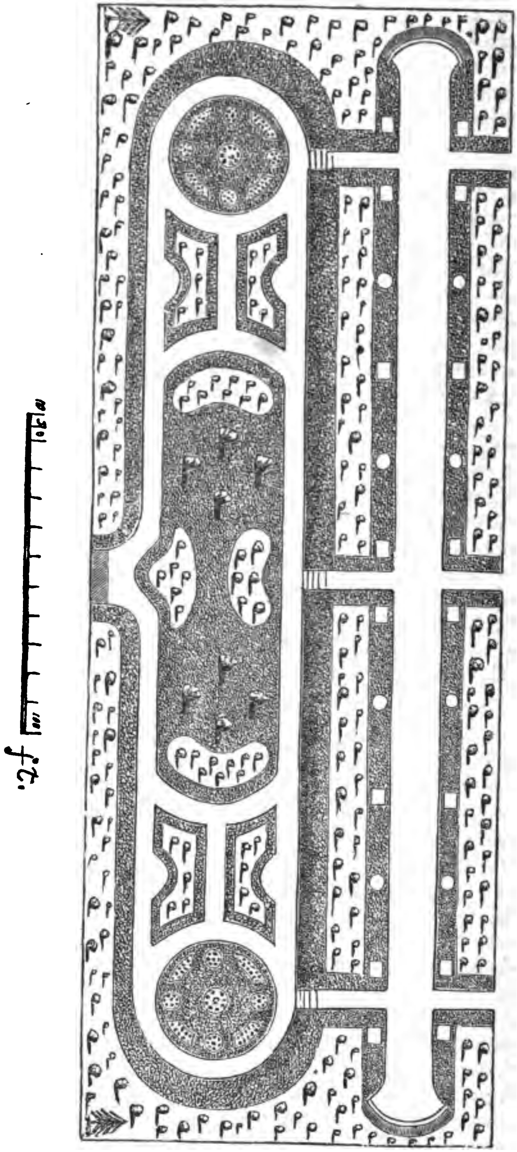
PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 9.

Having been engaged to lay out a pleasure-garden as an appendage to a terrace, the ground, consisting of a paralellogram of about four hundred feet in length, and one hundred and thirty-five feet in breadth, the accompanying design has been carried out.

The ground slopes towards the south, consequently an advantage has been taken by raising the broad terrace walk, with its verges and borders of shrubs on each side to a level, and thereby giving them an elevation of some three feet above the other part of the ground, which, it will be perceived, is entered descending by steps.

The design gives an alcove at each end of the sixteen feet wide terrace-walk; and on the verges, eight feet wide sites are indicated for ornamental vases, &c., of various construction for flowers in summer. There is a covered seat at about the middle, and against the southern boundary; and the four small recesses, which may be perceived on the sides of the walks, are intended as places for garden seats. The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clumps on the circular compartment at each end are intended for flowers in masses. Three walks lead out north from the broad terrace-walk, which communicate with small frontage gardens to each house on the terrace, but which it is not thought necessary to show on the plan

A great variety of flowers for the summer are introduced along the front of the shrubbery-clumps and borders, which make the whole look very gay.

From the terrace a beautiful sea view is obtained, having the Plymouth breakwater and a wide expanse of sea in the centre, with Mount Edgecumbe on the right, and St. Nicholas Island, with other high lands, on the left, the whole forming one of the most beautiful and interesting marine views in the west of England.

REVIEW.

The Theory and Practice of Landscape Gardening. By JOSHUA MAJOR, Knowsthorpe, near Leeds. London: Longman. 4to, pp. 204.

(*Continued from page* 165.)

SEATS AND OTHER GARDEN ORNAMENTS.—*Seats* are essential to pleasure-grounds. They may be of various forms and character. Open seats may be made of wire, some of lattice-work, and others of round larch rods, or crooked oak branches. Latticed seats should be formed of four or five screeds of deal, one inch thick by two broad, and six or seven feet long (leaving half an inch between each), and nailed upon three neat trusses or bearers, with or without backs. If backs are attached, they should be neat, light, and ornamental. The rustic open seats, of larch and oak, are formed similar to the other, or by nailing the rods across two long bearers, with or without backs, with feet at each end, in the manner generally practised; always minding to have the cross rods even and easy to sit upon. The two former kinds of seats should be placed in the dress grounds, and those composed of larch and oak in more rural scenery. Covered seats are indispensable structures to afford shelter from rain, sun, and wind. Some should be ornamental, composed of boards and lattice work, or wire, beautified in the inside with cornices and plain or fluted panels. Beautiful ornamental wood-houses are necessary, having windows and doors made to lock up. These may be used as reading-rooms; others may be of a ruder character, yet still architectural, composed of boards, varied by nailing straight rods of larch, or hazel, over them, inside as well as outside, forming panels, or other devices. Fir cones, also, may be used for embellishing the inside. These seats should have low, broad, or old English windows of glass, in diamonds of lead.

Grottos, or Mineral and Shell Seats.—These may be round, octagonal, octagonally ovated, or of fancy forms; built first with brick, then coated over on the outside with small fancy stones, or sea pebbles, fixed in cement or mortar. They should have windows on each side of the door, either gothic or old English; the inside must be panelled, beautified with rich minerals, shells, and pebbles, and mingled with different kinds of mosses, especially the blue (such as are to be found amongst ling and on trees), and the knotted kind, which is white, when dried, and which grows in moist or wet places. *The moss-house and ling-house* are of a ruder character. The former may be circular, with three open entrances; the other parts may be walled with bricks, and the inside must be lined with rude boards; and, about two feet above the seat, short crooked oak-sticks, about an inch thick, may be nailed on in different-sized irregular figures. These and the rest of the back may be lined in patches of one colour, with various kinds of mosses blending naturally with each other; the roof may be slated and covered with ling, projecting nine inches or a foot over the erection. The inside of the roof should be lined with moss, either of one colour or of different shades (that is, each division between the spars to possess one kind, or shade). The entrances should be formed by four rude trunks of trees five or six feet long above ground, and from nine to fifteen inches in diameter, with low arches springing from their tops. The seats may be covered with plaited silk, ling, or Egyptian matting. The front of the seats may be finished with a bordering of stick-work, four or five inches broad, and the seats themselves should be supported by trunks of trees.

The ling-house may also be round, or an octagonal oblong, formed of six or eight trunks of trees sunk into the ground, or let into large stones. The spaces between them may be filled up with slips of wood, so as to allow the whole to be thickly covered inside and out with ling, leaving an entrance and two open irregular-formed windows. The tops must be covered with slates, and ling over them, projecting nine inches or a foot over the whole building. The trellis and wire seats (which ought to be of the most pleasing designs), are suitable for the flower, garden; rude seats should not be introduced into any of the dress ground. Perhaps the grotto would not be out of character placed in a massive shrubbery. The moss and ling huts will be best placed in wooded or rural scenery.

The Aviary.—An Aviary is a proper object to be introduced into the pleasure-ground. It should be an elegant structure, affording proper compartments for the different families of birds; and while there should be plenty of light, there should also be shady places for their retreat in hot weather. The Aviary should be placed in some part of the dress grounds, where the shrubbery will afford concealment for a small shed in which to place a boiler and fireplace for warming the Aviary with hot-water. The portion of pleasure-ground selected for the Aviary should be planted with ornamental trees and shrubs, blended with lawn of sufficient extent to afford room for the erection or formation here and there of retreats for large interesting birds, cages for small birds, and perches or poles for hawks, owls, parrots, &c., when it is thought proper to have them in the open air. In this way the general combination would be varied and pleasing.

Garden Ornaments of various devices, formed of wire, such as rods of iron topped with wire, in the style of an umbrella, for creepers, wire vases, and numerous other plant-bearers, and basket-work for round beds, may be introduced into the dress grounds; but no rude device, such as tree-roots, tubs, or other rude materials: such are more in character with scenery not so highly cultivated.

Dials.—Dials are very useful objects in pleasure-grounds. They should be placed so as to let the sun's rays fall upon them throughout the whole of the day, and in frequented parts, where there can be a ready access to them. The junction of two walks diverving from each other would be a very suitable position; also in front of a green-house, or of any other ornamental structure.

Vases and Urns are suitable ornaments for placing on the terrace wall of the mansion, in front of green-houses, on each side of steps, and in any other places connected with buildings. Vases may be placed with propriety in dress ground, on the gravel, at the junction of two walks diverging from each other, in order to finish the point of grass dividing the walks. They should be furnished with plants in pots, placed inside, so that they may be replenished at pleasure; and the earth and pots should be covered with moss, which will give a neat and clean appearance, as well as prevent the roots of the plants from drying so fast as they would do if they were exposed to the sun and wind.

Statues are very interesting objects in kept grounds when introduced occasionally, and assembled in groups according to their relative characters. The obvious intention of such appendages is to recall to mind personages and events which transpired in by-gone days, and they have therefore a tendency to withdraw the contemplative mind from other interesting objects which are to be found in a flower-garden. On this account, recesses of lawn in shrubbery walks are the most proper places for their introduction. If introduced upon the general lawn, they should be so placed as to be a good deal embosomed in shrubs, that they may not present themselves prominently from every point of view, but rather burst suddenly upon the eye on its approach, and thereby create surprise and pleasure.

[To those who are laying out grounds we recommend Mr. Major's work, which will be found to contain much that will be very useful, and prove of great assistance.]—Ed.

MISCELLANEOUS SECTION.

The Lapageria rosea.—The history of the artificial treatment which many of our well-known plants received when first introduced. and when their habits were little known, would afford some curious and instructive details for the gardener. It has hitherto been, and continues to be, too much the practice to consider every rare and valuable plant, upon its first arrival, to be tender, and thus to force upon it a treatment directly opposite to what it in reality requires. In this way many a beautiful plant has languished for years comparatively unknown, until some lucky accident or fortunate neglect has enabled it to develope its true character, and to indicate to the cultivator the exact treatment it required. The plant, whose name gives the title to this paper, seems in a fair way, like a host of its predecessors, to be persecuted with kindness. Hitherto but little success has attended the attempts to cultivate it among the few who are fortunate enough to possess it. But now that a large number of strong plants has reached this country, there is a chance of its becoming better known; and doubtless the well-known skill of English gardeners will soon succeed in developing its beauties. That its attractions are great there can be no doubt; and there is much probability of its proving hardy with us, at least in the more favoured parts of England. It is a native of a climate where the temperature rarely rises above 65 degrees. Its habitat is moist, shady woods, where it scrambles among the undergrowth, and climbs about the boles of trees; for it is a climber, with dark green leaves, resembling in appearance a Smilax, to which it is allied. Its roots are thick and fleshy, like those of the Asparagus. In the flowers, however, consists its great beauty. They are bell-shaped pendents, of the richest and deepest rose-colour, and measuring some four inches across—a glowing description truly, but a correct one. Now a word or two about its treatment. Up to the present time failure has been the rule with those who have attempted its culture. Let us endeavour to investigate the causes, and to ascertain the treatment its nature and habit require. Growing naturally in cool, moist, and shady woods, it was scarcely to be expected that when placed in an artificial climate of a directly opposite character, viz., a high and airy temperature, with a strong light, it would exhibit its natural health and vigour. On the contrary, it did exactly what any other plant of a similar nature, and under a like change of condition, would do—it cast its leaves, and otherwise indicated its repugnance to its altered circumstances. If the several attempts that have been made to cultivate it are investigated, it will be found that in proportion as artificial heat has been employed, and strong light permitted, so has failure resulted in an equal ratio. The natural conditions under which it flourishes clearly furnish data upon which to found its artificial management; a cool, moist, and shady situation must be afforded it; strong light it abhors, the direct rays of the sun especially. In an ordinary plant-stove it has proved altogether uncultivable; in a warm greenhouse it has languished, *while in a cool and shady one at Kew it is succeeding well.* From the nature of its roots it is doubtless a plant tenacious of life, and not easily destroyed under ordinary treatment; but, like many other fine plants, it requires peculiar culture for its perfect development. When that has been ascertained, as it soon will, we may expect to behold its noble blossoms developed in our gardens, as in its native woods on the mountains of Valdivia, and the neighbouring countries. And of its hardiness in the open air in this country, if a proper situation be selected, and established plants employed, there is (judging from the physical character of its native country) every probability. In addition to the local conditions—the shade of the woods under which it luxuriates, moisture and medium temperature are prominent features of the tract of country it inhabits. Many parts of Great Britain possess similar characteristics in a corresponding degree.—CRAYON.

[We do not acquiesce in this comparison between the climate of Lapageria and that of any part of England. In other respects our correspondent is no doubt much in the right. The plant wants damp, shade, and a mild climate.]—*Gardener's Chronicle.*

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

AUGUST is proverbially a hot and dry month; it will therefore be highly necessary, during the continuance of dry weather, to administer copious supplies of water. This should be done towards the evening of each day, because the plants have then time to absorb the water gradually, and appropriate such portion as contributes to their well-being. It is only in extreme cases that water should be given in the morning, because it is then so quickly exhaled from the soil, as well as the leaves, that its refreshing and nutrimental properties are almost wholly wasted. Rain-water is best, or that from an exposed pond or tank. Where beds of plants have been repeatedly watered through a rose, the surface of the soil will probably have become *crusted* and almost *impervious* to moisture; consequently they ought to be stirred over occasionally with a small fork. A few annuals, as Mignonette, &c., may now be sown to bloom in the autumn, also biennials to bloom next year.

FLORISTS' FLOWERS.—*Auriculas* and *Polyanthus* should be kept in the shade. At this season of the year the plants are often attacked with green fly; dip the plants in a solution of tobacco-water. *Tulips* will have perfected their growth, and should now be taken up, as if allowed to remain too long it invariably acts prejudicially on the bulb. *Ranunculuses* will require to be taken up as soon as their foliage has become withered and dry. *Pinks* may still be piped. *Carnations* and *Picotees:* as the pods are fully formed and ready to open, secure them round with a ring of India-rubber, gutta-percha, or bass, to prevent their bursting on one side. When blown, they should be shaded. Never suffer the plants to flag for want of water. Proceed with layering. *Dahlias* will require *thinning out* freely as they advance in growth. If sprinkled overhead with soft water late in the evening with a fine rose or syringe, their luxuriance will be greatly promoted. *Pelargoniums* that have shed their flowers should be cut down, disrooted, and potted in smaller pots, keeping the plants for a week in a close frame, to assist them in developing their new shoots. *Roses* may now be budded, moist weather being best for the operation. It is of importance that there should be a resemblance between the bud and the stock as to the vigour of vegetative growth, in order to ensure a successful result. If a Rose of slow development is budded on a rampant briar, and all the strength of the latter is turned into the parasitical stranger, health cannot be maintained, nor will a freely vegetating Rose submit to be impeded in its progress by a sluggish stock. Thin away surplus branches from all stocks not budded as early as possible, not to wait a day even, but get the branches strong and healthy.

IN THE FORCING STOVE.

Where stove and greenhouse plants afford suitable cutting propagation must now be pursued; as, generally speaking, it can be practised with the greatest success in the early rather than in the latter part of the year. It should be remembered that the propagation of most plants is facilitated by the employment of bottom-heat and bell-glasses. Stove plants will derive great advantage from a partial shading during the glare of the day, and will be less liable to injury from drought. Many plants that will require shifting, such as Justicias, Clerodendrons, &c. Give plenty of water at the roots, syringe often in the evening, and keep the floors of the house and every part damp, to assist in maintaining a humid atmosphere. Bulbs of Amaryllis, &c., should be put together in a pit or frame, where they will be near the glass, and where the influence of the sun, with a gradual diminution of water, will mature them. Never permitting the foliage to flag is a good criterion as to the quantity of moisture plants require; keep as near that state as possible.

IN THE GREENHOUSE, &c.

As a free ingress of air must necessarily be permitted during fine weather, its rapid circulation, conjoined with active solar heat, must cause a rapid evaporation both from the plants and soil; hence there exists a necessity, under the above circumstances, of watering and syringing frequently. However beneficial a screen may be during bright hot sun, its presence is not required while the sun is obscured. Encourage the growth of Azaleas and Camellias by keeping them comparatively close (with shade during sunshine), and supplying them liberally with moisture administered by the syringe. Propagate Roses by cuttings from those plants which have been forced, and place the plants in a rather shady situation, in order that they may have a period *of rest* for a few weeks. Calceolarias that have ceased blooming should be re-potted; cut off dead tops, place the plants in a situation where they can be shaded from hot sun, admitting it morning and evening. Seed should be sown, so as to have the plants strong, to endure winter; such will bloom next season, and be much more vigorous than plants raised from cuttings. Cinerarias also that have done blooming should have the tops cut off, and fumigated in a close frame, as they are often affected with green-fly; after which the plants should be turned out of the pots, and planted in a somewhat shady bed of good soil, in the garden. Sow seed now; the young plants will bloom early next spring. Epacrises, Ericas, &c., now done blooming, may be cut in, to render them bushy. Chrysanthemums should *now* have the leads stopped, to cause the production of side shoots, and make the plants *bushy* and dwarf. Procure a stock *now* of any required. Greenhouse plants placed in the open air in pots should have frequent waterings at the under side of the foliage, to destroy or keep down green-fly. Moss laid lightly between the pots keeps the roots somewhat cool, and tends to promote the health of the plants. Occasionally water the moss, if the weather be hot and dry.

BRIEF REMARKS.

Daphne odora rosea.—All winter blooming plants are especially valuable, more particularly so if fragrant. During the last three winters I have had several plants in bloom of the above-named Daphne, and from the first week of November up to the present time they have continued to flower. The plants were purchased at a London nursery, they were dwarf and bushy, and every shoot produced a head of flowers, of a pretty rose colour, and most deliciously fragrant, quite perfuming the greenhouse and sitting-room. The plants I obtained had been raised by grafting scions into the common hardy Daphne pontica (growing in pots), same as is done in grafting fruit-trees. This was done, I was informed, at the beginning of April; and, after being grafted, they were put into a hot-bed frame of *gentle* warmth, and being shaded during mid-day, the frame generally kept closed, and in about six weeks they became fully united. When the shoots had pushed a few inches, the lead was pinched off, which induced lateral shoots to push; and by occasionally stopping the leads, the plants had been formed as close and bushy as an Indian Azalea. When the grafts had become satisfactorily united, the plants were removed to a warm part of a greenhouse, their growth was promoted, and attention paid to the *new wood well ripened;* this is essential in order to have the plants to bloom properly; if the wood *does not ripen*, there will not be any flowers. When the plants have done blooming, they are placed in a higher temperature, the new shoots stopped at about five inches long, and this repeated if necessary; by the end of July, or early in August, the plants are removed into a sunny part of the greenhouse, where they have abundance of air, or they are placed in a warm situation in the open air, in order that the wood may be duly hardened. By placing a plant or two in a medium stove early in October, and others in succession, a prolonged blooming period is obtained. I repotted my plants, as soon as the bloom was over, in a compost of equal parts of well-decomposed turfy loam, turfy peat, and leaf mould, with a good sprinkling of silver sand, and a free drainage. The soil is not sifted, but well broken by the hand. Every greenhouse and sitting-room ought to have in it one or more of these lovely plants.—*A London Amateur Plant-grower.*

On a Garden, &c.—I observe, in reading your floricultural work, that many of your correspondents consult each other as to various matters connected with the culture of plants, and the general management of a garden; I am therefore encouraged to hope that I shall receive, through the medium of your pages, some information on a subject which, from my inexperience, somewhat puzzles me. My small vicarage looks upon a straight piece of garden ground, about one hundred and thirty yards in length, and about ninety in breadth. It is my wish to divide this crosswise, so as to have that portion nearest the house entirely devoted to flowers and evergreens, whilst the lower part is made useful as a kitchen garden. I wish to know the most desirable plan of effecting the division in such a manner, that the precise line of separation should be as little discernible as possible. Would a larch paling with creepers be the best mode of managing my object? or would it be best effected by a privet hedge? or, last of all, would evergreens, planted a little out of line, answer the purpose more satisfactorily? I shall feel myself much obliged by an answer to my queries; and my obligation will be increased if you can, at the same time, supply me with a list of the most rapid-growing evergreen creepers. Could Mr. Rutger assist me in his garden designs?—*Northumberland.*

Mexican Acorns.—The period of ripening of the acorns is from September to November, during which season the Oak forests more than usually teem with life, on account of the many animals that are allured by the fruit. They resound with the screeching of numberless parrots, and the noise caused by the cracking of the nuts, which fall to the earth like dense showers of rain, and are eagerly devoured by the Nasua, Procyon, and Dicotyles, and by squirrels. Short regular knocks are heard, which might be taken for those of people at work cutting timber, but which will be found to proceed from a handsome species of woodpecker, which the natives on that account call the carpenter (*carpentero real*), zealously occupied in picking symmetrical rows of holes in the bark of the Oaks, into which it inserts acorns picked up from the ground. In the acorns are lodged unhatched insect eggs; and it is only some time after their maggot has consumed the kernel, that the woodpecker returns to break the nut, and consume the well-fed worm.—*Liebmann, in Hooker's Journal.*

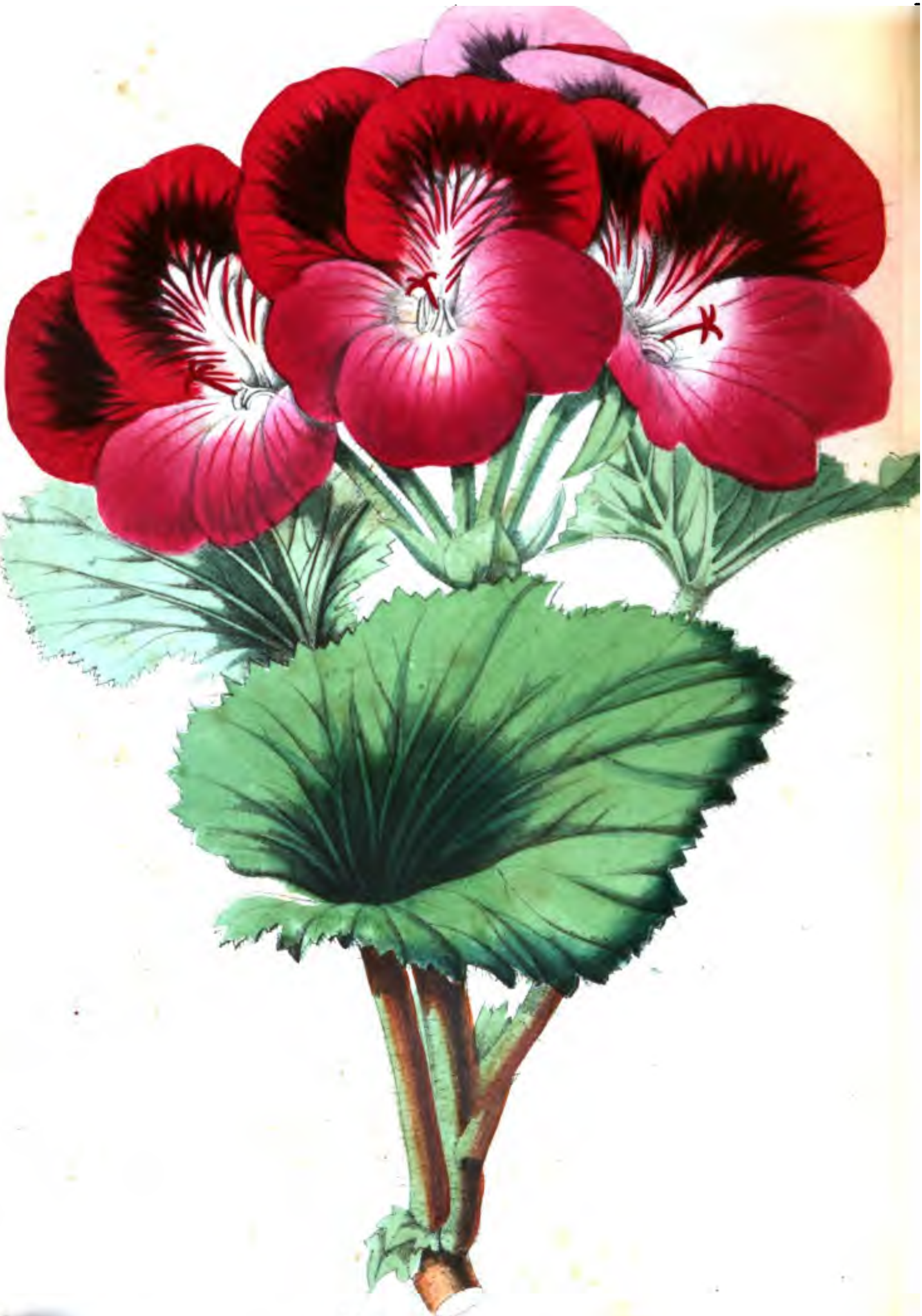
On Sowing some American Tree and Shrub Seeds, &c.—I take this opportunity of answering the query of W. Smith, " On some American seeds," in a recent Number. The spring is the best time for sowing these seeds, when a hot-bed can easily be procured for forcing them, although it was always my practice, when I received foreign seeds, to pot them immediately and put them in the greenhouse. I consider that seeds are more likely to retain life in this way than when left above ground, more particularly small seeds, which it is most difficult to keep; and where seeds lie long before starting, when put into a hot-bed the next spring, many of them will come away very quickly. The soil I would recommend for planting these American plants in is a light mould, mixed with one quarter leaf-mould, and some white or grey sand; and if a little peat-earth can be obtained, so much the better. If the seeds do not come up the first season, the pots must not be emptied, but be allowed to stand in the greenhouse or open air, and be replaced in a hot-bed the following spring. When the seedlings are potted out, attention will be paid to the soils peculiar to each genus or species, as to which *Loudon's Catalogue or Encyclopædia of Gardening*, or *Cushing's Exotic Gardener*, may be consulted.—*Jesensis.*

Indian Azaleas.—During winter keep them from damp and frost, in a cool situation. As spring approaches increase the warmth, and continue it till the bloom is over, and the new shoots are formed the length required, then place them out of doors, in a shady situation, till the end of September, or a little later if the weather is not wet. They flourish in a compost of equal parts of turfy loam and turfy peat, with a liberal sprinkling of silver sand, and a few bits of charcoal intermixed. Give a free drainage, but do not overpot them, nor break the old ball when repotting. The best time to repot them is immediately the flowers fade, when the new wood has to be encouraged in vigorous growth.—*An Extensive Cultivator.*

Ulmin.—Some time ago we were informed that Ulmin deserves attention in horticultural science from the uses which it is supposed to serve in the vegetable economy; perhaps some of your chemical correspondents will be able to tell what attention has been paid to it. It has been conceived to be an acid, having the power, like this class of bodies, to combine with bases. It nearly agrees in its composition with gallic acid; it is produced in nature in large abundance, and numerous vegetable substances are constantly being converted into it. It is found in great quantities in turf and other vegetable soils, and may be procured by the action of sulphuric and muriatic acids upon various vegetable bodies. Its existence in vegetable earths, manures, and the sap of plants, seems to indicate its importance in vegetation, and may, perhaps, tend to resolve some questions relating to the yet unexplained action of manures, and thus lead to some useful practical conclusions.

We are also informed that it is a black or dark brown substance which exudes from the bark of the elm and several other trees, and which appears to be contained in most barks. It may also be obtained by digesting elm bark in boiling alcohol, and afterwards in cold water, by which various more soluble substances are removed; the residue is then digested in an aqueous solution of carbonate of potash; it acquires a brown colour, and yields a precipitate when neutralised by muriatic acid, which, after being washed and dried, is *Ulmin.* It is very sparingly soluble in water, but readily soluble in solutions of the alkaline carbonates. According to Boullay, it is a compound of 567 carbon, and 433 hydrogen, and oxygen in the ratio to form water. He terms it *ulmic acid*, and considers it identical with the brown matter of vegetable mould and turf, and as contributing materially to the nutriment of growing plants.—*Peter Mackenzie.*

Skeletons of Leaves.—To form these, soak the leaves, when at their full growth, in a tub of rain-water. They must remain in the water just so long as to rot the parenchyma (or soft, juicy parts), without sensibly affecting the nerves. This state can only be ascertained by frequent examination, and subjecting them to the next process, when it will be easily seen if they need further soaking. To clear away the parenchyma, lay the leaves on a smooth board, and pump upon them; any slight adhesions of parenchyma may be picked out with a needle, but the stream of water is the only mode of doing the work safely and expeditiously. Bleach the skeletons in a moderately strong solution of chloride of lime, then dry and press them. If a large number of leaves are to be done at once, it might be as well to remove them from their tub, and allow them to remain for a few hours in a vessel of pure water before bringing them to the pump, as the smell is apt to be offensive.—*A Practitioner.*



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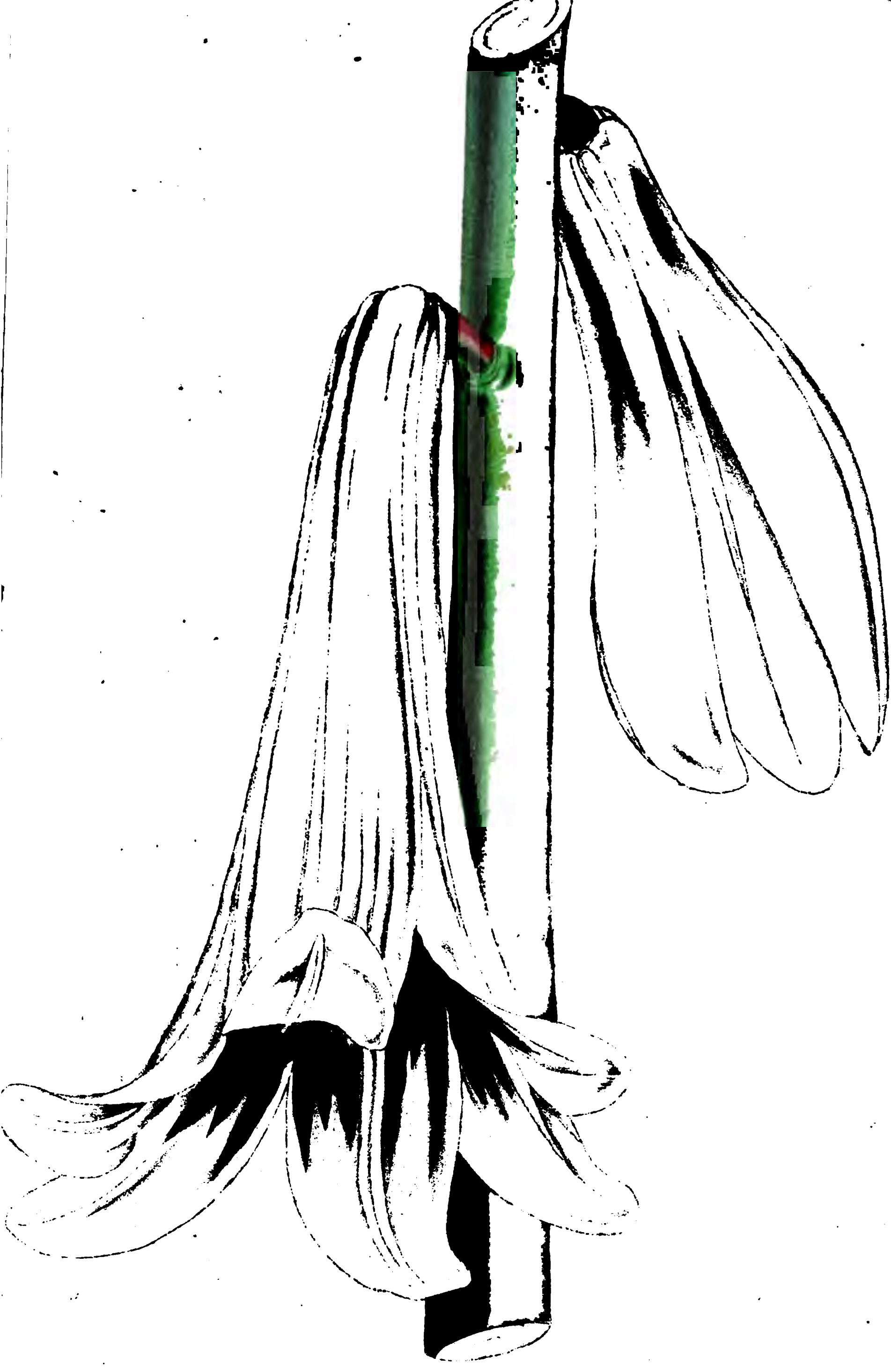


Lilium giganteum.

FLORICULTURAL CABINET

SEPTEMBER, 1853.

“ Autumn soon, of various dyes,
Shall with kinder warmth arise,
Bid the livid clusters grow,
And a riper purple show.
See the fine leaves, these lovely colours see;
Smell how delightful is their fragrancy !”

ILLUSTRATIONS.

LILIUM GIGANTEUM.—THE GIGANTIC LILY.

“ Queen of the field, in milk-white mantle drest,
The *lovely lily* waved her curling crest.”

“ The lily’s height bespoke command,
A fair imperial flower;
She seem’d design’d for Flora’s hand,
The sceptre of her power.”

Alciat tells us, in his celebrated elegant emblems, that celestial beauty is represented surrounded by a glory, half of the head hidden in the clouds, and as holding a Lily in one hand, and a compass and a ball in the other. He further observes, “that Beauty is represented with a garland of Lilies and Violets.”

As all nations agree in making the Lily the symbol of purity, modesty, and elegance, it is the fit attribute of beauty ; and, perhaps, no inhabitants of the earth blend the Lily with the Rose as the fair daughters of Britain.

In the Hebrew language the name Susannah signifies a Lily. St. Dominic is always represented as holding a Lily.

The beauty and delicacy of the Lily has been celebrated by the writers of all ages, from the time of Solomon to the present day. It was regarded by Jesus Christ as being more splendid than the great king of Jerusalem in all his gay apparel, who stated, “even Solomon in all his glory was not arrayed like one of these;" and on this account we cannot behold the Lily without feeling a kind of reverence for the flower, mixed with our admiration for its elegance of form and purity of colour:

> "In loveliness beyond compare
> It toils not, spins not, knows no care!"

The Lily appears to have been a favourite flower with the ancient Greeks; and in the wedding ceremonies of the modern Greeks, the priest is supplied with two chaplets of Lilies and ears of corn, which he places on the heads of the bride and bridegroom as emblems of purity and abundance. All the wedding party are then crowned with flowers, and as they pass by the houses of their acquaintance, flowers, nuts, and cakes are strewed from the windows.

The Romans seem to have regarded the Lily with equal admiration, as we learn from Columella that it was preserved or planted in baskets:

> "Then plant the various flow'rs, these earthly stars,
> And Lilies, which in baskets long preserve
> Their verdure."

Pliny mentions the Lily as next to the Rose in point of beauty.

The common White Lily was so familiar in the time of Queen Elizabeth, that Gerard speaks of it as a native plant; he says, "Our English White Lillie groweth in most gardens of England." He farther informs us, that he received roots of White Lilies from Constantinople, under the Turkish title of "Sultan Zambach," which signifies "Sultan's great White Flowers."

There are several varieties of the so-called "White Lily of our gardens," as that with the flowers striped or blotched with purple; those with the leaves striped or edged with yellow or white; another with double blossoms, and one having drooping flowers. The double blossomed are not so fragrant as the single ones, and the common white is more esteemed than any of the varieties.

The Orange Lily (*Lilium bulbiferum*) is of great antiquity in our gardens, and one of its greatest ornaments when in bloom. Some years back a plant of the Orange Lily produced double blossoms, but we have not heard of its permanency. There are several varieties now of a more dwarf habit, and with blossoms of various colours, all beautiful and ornamental.

The above Lilies have flowers that are *bell*-shaped, or *funnel-bell* shaped, and of this section of Lilies there are many other large, superb, flowering kinds, particularly L. japonicum, Wallichianum, Eximium, &c., all highly meriting a place in every collection.

The Turk's Cap-formed flowers (the petals are reflexed), comprise an extensive section of Lilies, all of which are elegant and beautiful.

The *Martagons* have long been ornaments of our gardens. The first, we are informed, was obtained from the Turks under the Turkish title of "Zufiniare," and the Venetian name of "Marocali." Dioscoroides mentions that these kinds of Lilies grew wild near Laodicea, a city of Asia, now called Ladik, and also near the celebrated city of Antioch, in Syria. Gerard states (in 1596), "This plant groweth wild in the fieldes and mountaines, many daies journeis beyond Constantinople, to which it is brought by the poore pesants, to be solde for the decking up of gardens. From thence it was sent, among other bulbs of rare and daintie flowers, by Master Harbran, ambassador there, unto my honourable good lord and master, the Lord Treasurer of England, who bestowed them upon me for my garden." Amongst other odd names for this flower, we frequently find it called the Lily of Nazareth, which seems to indicate that it came originally from the east to Constantinople.

In 1629, Parkinson, the herbalist and apothecary to king Charles I., describes that he possessed a dozen different kinds, viz., the white, the white spotted, the blush, the spotted Canada, the imperial, the red Constantinople, the red spotted, the Hungarian bright red, the yellow, the yellow spotted, the purple, and the double flowered.

The Lilium chalcedonicum (Scarlet Martagon) is one of the prettiest ornaments of our flower-gardens at the present day, and is not as extensively grown as it merits.

The Lilium tigrinum (Tiger Lily) is a most beautiful one, and should be grown in every flower-garden of mixed herbaceous plants.

Lilium lancifolium (the Japan Lilies) are but of recent introduction, and some of them ought to be grown in every garden, being quite hardy, as well as in every greenhouse or conservatory; they are elegant and strikingly ornamental. There are other Lilies which have reflexed flowers, which we cannot now enumerate, want of space forbids.

The LILIUM GIGANTEUM, which we now figure, belongs to the bell or funnel-shaped section of flowers. It has been truly denominated "the Prince of Lilies." Dr. Wallich discovered it in India, in moist shady places on Sheopore, in Nepal. He states, "This majestic Lily grows sometimes to a size which is quite astonishing; a fruit-bearing specimen of the whole plant, which is destined for the museum of the East India Company, measures full ten feet high from the base of the stem to the top. The flowers are delightfully fragrant, much like those of the common White Lily.

Messrs. Cunningham, Comely Bank Nursery, Edinburgh, received seeds of this Lily about seven years ago from Major Madden, and in their establishment it first bloomed in Great Britain.

Major Madden states, "The Lilium giganteum is common in the damp thick forests of the Himalaya, where I frequently met with it. It there grows in rich black mould, the bulb close to the surface, at from 7,500 to 9,000 feet above the level of the sea, where it is covered with snow from November to April. The stems, being hollow, are commonly used for musical pipes. The fruit ripens in November and December."

Messrs. Veitch exhibited a plant in bloom at a recent exhibition in the Horticultural Society's garden, which many of our readers saw. Subsequently we saw at their nursery, at King's-road, a number of these majestic Lilies in bloom in the greenhouse, each plant being six feet or upwards high. The leaves, heart-shaped, being about sixteen inches long and a foot broad, and the girth of the stem at the lower part seven to eight inches in girth. Each plant had from eight to a dozen flowers; and now (August) they have a like number of large seed-vessels (fruit of some persons), which, on our visits, we find rapidly increase in size.

In Messrs. Veitch's nursery at Exeter, this Lily was tried during the last winter in the open ground, and was not in the least affected by the frost, even when they had seventeen degrees of it. It merits a place in every likely flower-garden, succeeding the best when grown in a somewhat shady place, and in every greenhouse or conservatory.

The true Lilium Japonicum, too, is a very superb species, having very large white blossoms; also the L. Wallichianum, which has immense large white flowers. Both these species highly merit a place in every collection of this fine genus. There has been a Lily, which is known as L. Brownii, sent out by some persons as L. Japonicum, which is much inferior to the true species, and purchasers should be careful in inquiry as to the certainty of possessing the true kind.

NOTES ON NEW OR RARE PLANTS.

Azalea amœna, Bright-flowered.—This pretty species was sent from Shanghae, in China, by Mr. Fortune, who states it had been brought from the far-famed city of Soo-chow-foo. Mr. Fortune sent the plant to Messrs. Standish and Noble, of Bagshot; and it has proved to be perfectly hardy, growing and blooming freely in the open air, and not injured during winter. It forms a neat dwarfish bush, a foot high, and blooms very profusely. The flowers are produced in terminal corymbous-heads, each blossom is about an inch and a quarter across, bell-shaped, of a rich crimson-purple, with a deep orange centre. The leaves are small, about the size of those of the common box. It is a lovely little shrub, and merits a place in every greenhouse, or suitable shrub border outdoors.—(Figured in the *Botanical Magazine*, 4728.)

Cantua bicolor, Two-coloured.—(Synonyms, C. ovata; C. tomentosa; Periphragmus uniflorus). In our volume for 1849, we noticed that much confusion existed relative to the Cantuas, and in the *Botanical Magazine* of last month, where a fine plate of Cantua bicolor is given, Sir W. J. Hooker observes, "We are indebted to Messrs. Veitch for living plants of this Cantua, which flowered in April, 1853. It has, indeed, already appeared in the volume of 'Paxton's Magazine of Botany,' for 1849, under the name of *C. bicolor*, as a plant recently introduced by Messrs. Veitch from Peru, but though a *new* name is given to it, the 'Authorities and Synonyms' quoted under it are 'Cantua tomentosa, Cav., Periphragmus dependens, R. et P., Cantua dependens, Pers., and Cantua buxifolia, Juss.,'—all except Persoon, giving figures illustrative of what they intend; and all these are considered by us the same as, or *mere varieties* of Cantua buxifolia. Here, however (figured in last month's Number), is quite a different-looking plant, with a comparatively *short* and quite *yellow tube* to the corolla, flower *solitary*, and never *drooping vertically*, and raised from seeds from the same country as our *C. buxifolia.* Yet fearing the present plant might prove to be *a cross* with some other kind, we wrote to Mr. Veitch; who replies, "The only Cantuas we have bloomed are C. bicolor (here figured), C. pyrifolia, (fig. 4386. *Botanical Magazine,*) and C. buxifolia, (fig. 4582, *Botanical Magazine.*) Whether C. bicolor be a *true species* or not may be doubtful, but its beautiful flowers will recommend it to every cool stove. Cavanilles describes his *C. ovata* as the "Corolla cœrulea-rubens;" and Ruiz and Pavon (their *Periphragmus uniflorus* being the same), as having the "tube of the corolla *purple,* and the *limb* (five divided end of blossom) *violet.*" The C. bicolor, is a small *erect-growing shrub,* leaves hairy, about an inch long, and the edge (margin) quite *entire* (not notched), oval-shaped, rather tapering to the leaf-stalk. Each blossom has a tube an inch long, and nearly half an inch through. The limb (end) is an inch across, divided into five segments. Tube yellow, and limb scarlet within and without. It merits a place in every floral establishment.

Dichorisandra Leucophthalmos, White-eyed.—A native of Brazil, introduced into our gardens by Messrs. Henderson's, of Wellington-road Nursery. The leaves are about six inches long. The flowers are produced in racemes, and each blossom is an inch and a half across, of a blue-purple with the lower half of each petal white, constituting a large white eye. It is a stove plant.

Fritillaria oxypetala, Sharp petaled.—From the Himalaya, growing at an elevation above the sea of twelve thousand five hundred feet. The stem grows a foot and a half high, terminating in a solitary flower, the sepals a lilac-purple having a green keel outside, with the *inside* sprinkled with purple dots. Each blossom is at first *half*-campanulate (not the real bell-shape of our garden Fritillarias), but at length spreads out more fully. It is very neat and handsome.—(Figured in the *Botanical Magazine,* 4731.)

Rhododendron niveum, Snowy-leaved.—Dr. Hooker discovered it in Sikkim-Himalaya. It has recently bloomed in the Royal Gardens of Kew. The young leaves are covered with a white down. It is a smallish shrub, leaves about five inches long, oval-shaped. The flowers are borne in a close terminal head, bell-shaped, about two inches across. Outwardly of a yellow-lilac, inside pale-lilac, blotched with deep lilac, and having five deep, blood-purple spots. The plant blooms very freely.—(Figured in the *Botanical Magazine,* 4730.)

Vaccinium ovatum.—Synonyme, V. prunifolium.—A neat shrub, growing about two and a half feet high, a native of North-west America, where it was discovered by Menzies. Subsequently it was sent by Douglas to the Horticultural Society. It is perfectly hardy, and a very ornamental "evergreen." The leaves are about the size of those of a broad-leaved myrtle, glossy. The flowers are produced in short racemes from the axils of the leaves, each having from four to eight small blossoms, of campanulate-globular form, similar to those of Andromeda floribunda, of a waxy yellowish-white, tinged with pale pink or deep rose. A valuable small-sized shrub, blooming profusely, and merits a place in every shrub border.—(*Fig. in Bot. Mag.,* 4732.)

Calystegia sepium var. incarnata.—Most of our readers know the Calystegia sepium, or wild, large, white-flowered Convolvulus of our hedges. The variety we now remark upon has similar large flowers of a beautiful rose-colour, shaded with a deeper tint, and has a white stripe up the centre of each of the five divisions of the blossom, very handsome, and highly ornamental. The plant is a hardy, twining, herbaceous perennial, and trained against a trellis, wall, or in the open border, to a stake six to nine feet high, it produces a gay appearance; blooming, too, from May to the end of the summer.—(*Fig. in Van Houtte's Flora.*)

NIPHŒA ALBO-LINEATA, VARIETY RETICULATA.—This genus belongs to the Gesneriaceæ. In a previous Number we described N. albo-lineata, and stated that its leaves were green, with white lines; viz., the principal, middle, and side ribs were white, and were very handsome. Our present plant has leaves similarly marked, with the addition of the numerous veins crossing between those principal ribs, also white, giving the whole a beautiful silvery-*netted* appearance. Each leaf is about three inches long and two broad, oval-shaped. The flowering stems rise four to six inches high, terminating in a head of six to eight flowers. Each blossom is three-parts of an inch across, white, with a small yellow eye. It is a stove-plant, and entitled to a place in every one. It first bloomed in the establishment of M. Linden, in Belgium.—(*Fig. in Van Houtte's Flora.*)

ACHIMENES CHIRITA.—A new species introduced from Mexico, and bloomed in Mr. Van Houtte's establishment; who states that its flowers far exceed in size any other Achimenes he possesses, and of the richest blue tinged a little with red. It is very similar to those of the Chirita moonii. A magnificent species.

ACHIMENES SIR TREHERN THOMAS.—The flowers are very large, of a brilliant carmine-red colour, and exceedingly showy. This and the following superb kinds are also possessed by Mr. Van Houtte.

A. CAMILLE BROZZONI.—A beautiful rose with a white and purple centre; singularly pretty.

A. LOUIS VAN HOUTTE.—Rich rosy-purple with a white centre; very handsome.

A. MRS. RENDATLER.—Lilac-purple with a yellowish-white centre; flowers very large and handsome.

A. NAPOLEON ROSSI.—Lively violet-purple with a pale yellow centre.

A. CUPREA.—A pretty brown with a yellow centre; very singular and pretty.

A. MACKOYII.—A bright rose marbled with a deeper rose and white, and the centre a deep purple; very beautiful.

GLOXINIA BELLE CLYMENE.—White with a large deep blue throat, and the entire marbled with blue; very beautiful.

GLOXINIA DR. PLANCHON.—The flowers grow erect, similar to those of G. Fyfiana, of a rich red with a spotted throat; very handsome.

G. LEONIE VAN HOUTTE.—The flowers are of similar form to G. Fyfiana, of a beautiful rose with a pure white throat; very distinct and handsome.

Clematis patens, *variety* **Sophia.**—Very similar to C. azurea grandiflora, but has the addition of green stripes, which divide the limbs of each petal in regular parts. It is very handsome.

Weigelia amabilis (Synonyme, W. Metelerkampii).—It is one of the most beautiful shrubs ever introduced from Japan. Its foliage is very fine, and its beautiful rose-coloured flowers are produced in profusion. It is said to be quite hardy.

Canna Warscewiczii.—The flowers are of a brilliant crimson, and its large leaves are stained with deep red. The handsomest of the genus.

Psammisia sclerophylla.—It is a fine shrub of the natural order Ericaceæ, Vaccineæ, introduced from New Grenada. The leaves are thick, oblong-oval shaped, about four inches long and two broad. The flowers are produced in lateral racemes, having seven or more in each. Each flower has a bellying-shaped tube, about an inch long and half an inch through, of a beautiful rosy scarlet, terminating with one-fourth of its length of a bright yellow. It requires protection during winter, if grown in the open ground. It is a most charming shrub, in the collection of M. Linden, in Belgium.

Pæonia albiflora, *variety* **Souvenir de Gendbrugge.**—Belonging to the herbaceous section of these noble flowers. Each flower is about eight inches across. The outer row of petals is of a fine "satin rosy-red colour," and the interior portion of strap-shaped curled petaloides, are of a fine yellow with the centre of a reddish-buff colour; they are fragrant.—It is figured in Van Houtte's *Flora*. A beautiful acquisition.

Spathodea companulata (Synonyme, Bignonia tulipifera.—This most magnificent flowering plant was discovered in 1786, by Palissot de Beauvois, on his voyage to the coast of Guinea, and Thonning afterwards describes it under the name of Bignonia tulipifera. Mr. Whitfield, however, sent it to our own country from Sierra Leone, and it bloomed in the stove in June, 1852, at Chatsworth. It is a very robust plant, having leaves, ovate-lanceolate, four inches long. The flowers are produced in terminal branching racemes. Each flower, bell-shaped, is nearly five inches across, of a rich brilliant orange, with a golden-yellow centre spotted with red, and each petal has a golden-yellow margin. The inside of the blossom at first is tinged with bright rose, contrasting strikingly with the full expanded blossoms. It is a superb plant, and merits a place in every stove. It would be a fine plant for training up a pillar, or coiled round a wire framework.—(Figured in Van Houtte's *Flora.*)

Azalea Glory of Sunning-hill.—The blossoms are large, of a pretty rosy-pink, and the upper segments beautifully spotted with red. Some of its flowers become semi-double. It is very pretty. This variety, and the two following, we have recently seen grown as standard plants, on three to four feet stems, with large heads, and in profuse bloom; they were very ornamental.

A. Iveryana.—Flowers large, of thick substance, and fine form; white striped with carmine, and sometimes having stripes of purple. One of the very best, and ought to be grown in every collection.

A. **Gledstonni.**—Flowers good form, medium size, white with pale red stripes; very pretty.

A. **Rosalie.**—Flowers a bright orange, and the upper segments spotted with purple; good form, and very showy.

A. **alba magna.**—Flowers very large, of fine form, and the purest white; very excellent.

Leptosiphon luteum.—This new annual species is very pretty. The flowers are of a primrose-yellow, with a deeper yellow centre. It is a free bloomer, growing four to six inches high, and very ornamental.

Azalea striata formosissima.—Flowers white, very distinctly striped and spotted with lilac, and particularly handsome.

Spirea venusta.—A hardy herbaceous perennial, growing two to three feet high. The flowers (in the way of Meadow Sweet) are in large branching panicles of a beautiful rose-colour. It is exceedingly neat, handsome, and showy.

Delphinium triste.—A most singular species, growing from two to three feet high. The flowers are of a dark olive-brown colour.

WINDOW GARDENING.

BY MR. T. B. TANTON.

Being much interested in floricultural pursuits, I am gratified to see window gardening reaching such a favourable crisis, which in a great measure must be attributed to the numerous and able articles which has of late appeared in the columns of periodicals relating to the science of floriculture, and I hope ere long the ingenuity of the "fair sex," under whose superintendence this department of domestic pleasure is usually carried out (or attempted), will have attained this great desideratum. In order to contribute my mite towards this object I beg to offer a few observations, which, first of all, I must make our cultivators aware of the demonstrative fact which is so often overlooked; viz., that plants, like all members of the animal kingdom, require a season of rest, which they obtain *diurnally*, but which is too often neglected *annually*; therefore, when plants have attained their full maximum of development, which will be at autumn, then begin to give them rest by withholding water from them, commencing gradually with the drawing in of the days at that period, which has been ordained for their safeguard, and keeping them in a dry state during the winter season, only watering them when necessity requires. Where deciduous plants are grown for such purposes, nature will direct the steps of the amateur as to when he is to begin again to water copiously, which will be at the return of the days, at which time they begin to enjoy a plenteous supply of that necessary element, "light," which is so essential to the health and vigour of all plants, and which exerts such great power over their absorbent properties, and by this means promotes the flow of sap. It is also the property of "solar light," when striking upon plants, to cause the decomposition of carbonic acid, and fixing the carbon, and giving out oxygen, thereby promoting the growth of plants. Light is also the agent whereby colour is supplied to plants, as we find in the absence of it they take up again the oxygen from the atmosphere, and recombine it with the matter they contain, to be liberated again at the return of light. Then with such physiological facts before us we must confirm it as a deficiency of light, combined with inattention as regards the proper period of watering and resting, that causes window plants, in most cases, to look so sickly and forlorn. Therefore, where success is required, attention must be given to the above-stated facts; in addition to which, in potting or shifting such plants, care must be taken not to break the ball, thus avoiding mutilating the roots. Also to procure some good staple loam, with peat, and well-decomposed leaf mould, mixing them well together, with the addition of a little silver sand to keep the mass porous and open for the free transmission of water, which must not be suffered to stagnate about the roots; therefore to avoid this, good draining is necessary in the pots previous to shifting. At the same time the use of pans should be discarded, and in watering, take care to give each plant a thorough soaking with pure water, that is, "rain water," which contains a portion of ammonia, carbonic and muriatic acid, together with other impregnations which are taken up by plants as food, and which are obtained by the rain in its descent through the atmosphere to the earth. It must also be borne in mind much of the success is dependent on the time of watering: thus in the summer months it should be done after sunset; the three remaining seasons, viz., autumn, spring, and winter, before sunrise. How often do we see these ornaments of nature watered, watched, nursed, and petted, during the hottest part of a summer day; the result of which is that they are killed with kindness; which deaths, to the discomfiture of the owners, are thus occasioned through the misapplication of the principles which direct, conduct, and generalise vegetation in general.

CULTURE OF PRIMULA SINENSIS (OR PRAŒNITENS).

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

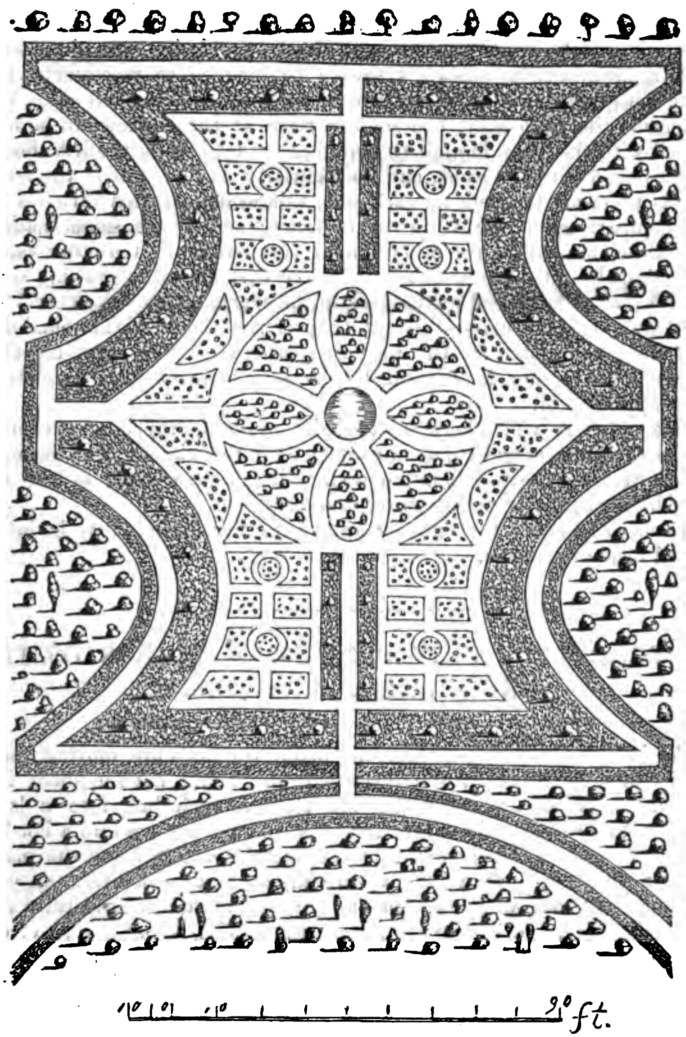
The admirers of all plants that bloom in winter well know the value of this free blooming, useful plant, clothed as it is with its white, purple, rose, lilac, and crimson flowers; increasingly valuable by being produced in such profusion, and for the length of time each plant, if properly managed, continues to display its beauty. It is generally known that all the single-flowered varieties are propagated by seeds; in fact, that is the usual plan for their production, *though they will increase by cuttings.* If those persons requiring any for winter blooming will attend to the following directions, I am sure they will grow and bloom them to such a state of perfection as is but rarely seen.

As before remarked, they are best increased by seeds; the sowing may take place in *May, June, July,* and *August,* so as to have *a succession.* The soil most suitable for the seeds to be sown in is a light sandy one, *not too fine.* The seeds must be sown on the smoothed surface, and very *slightly* covered, *if at all*, for it will be found that the first watering will sufficiently settle the soil around them. They may then be placed in a close frame, or, better still, a warm greenhouse, and keep the soil just moist until the plants appear; they may be so served until the young plants can be removed from the seed-pan with the thumb and finger, when they may be potted in thumb-pots, one in a pot, placed in a warm frame, and kept shaded for a few days until they make fresh roots, when the shading may be removed, and air gradually admitted. When the pots are sufficiently full of roots to require a shift, they may have one into large 60-sized pots; and the following soil —one-half leaf mould, one part good hazel loam, and one part sand peat, and small charcoal. The pots must be well drained; and if a little rough soil is placed over the crocks, so much the better, as it will prevent the drainage from being choked. As the plants advance in growth, and where large plants are required for blooming, they may have successive shifts into larger pots, increasing the strength of the soil as the plant increases in size. After the several pottings they may have had, they should be kept in a frame or greenhouse, and as near the glass as possible, in order to keep them dwarf, and at times give them as much air as possible.

As winter draws near, the batch sown in May will have made fine plants; and as they are the first to look forward to for bloom, they should be removed from the frames, and placed on a shelf near the glass in the greenhouse, *removing all premature blooms from them*, when, with a slight watering of weak liquid manure, they will soon be in bloom, and the colours much improved by this liquid. Plants of the successional sowings, as they advance in growth, may be duly brought on as before recommended, so as to take the place of the first batch as they go out of bloom. The double-flowered are very fine, and have a charming effect when well grown. The same kind of compost as is recommended for the single will suit them. They are easily propagated by division of the plant; viz., take off a side-shoot and place it in a thumb-pot filled with sandy loam and leaf-mould, and place it in a close frame for a few days until it roots, when it may be treated as directed for seedlings. There is a splendid variety of this charming plant about to be introduced; the flowers are of an enormous size, a single purple colour, and of extra substance. The blossoms are three to four inches across; its name is to be "*Magnum Bonum*," and rightly named. I can strongly recommend it to all lovers of Primulas, as it will prove all that we could wish for in these useful flowering plants. It is to be sent out in September or October of this year by *Messrs. E. G. Henderson and Son, of Wellington Nursery*. There is very little to retard the growth of Primulas when healthy; but the following *hints* may be useful:—*Smoking them destroys the green-fly*. If kept *too moist* in the fall of the year, the leaves sometimes damp off; but they should immediately be removed, as they have *a tendency to cause the plant to damp off*. The plant should never "be swamped with water," as no plant is so liable to suffer from such usage as this. Never use soil for potting-in in a *fine state*, as by frequent watering it gets sour, and the plants turn yellow.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 10.



Should any lady-florist or amateur floriculturist desire to show skill in arranging flowers according to their colours, when planted in masses, perhaps the accompanying design may be considered appropriate, by allotting the smaller beds for such a purpose. Much has been written about planting in masses, both in lines and groupes, to be so disposed as to harmonize, in reference to the colours of the flowers introduced. There is a very good article on the subject in vol. xx, p. 130, of the *Cabinet*, and which it would be well for all to study, who may not think themselves competent to judge, both as it respects the colours of the flowers, and height of the plants.

Supposing the small beds on each side of the design now given were to be appropriated to masses, I should be inclined to recommend the beds, both right and left of the central walk, to be furnished alike, viz. supposing the first front bed on the right at the entrance to be furnished with the Tom Thumb Geranium, the first bed on the left should be furnished with the same, and so likewise with the beds in the rear; and as there are ten beds on each side, this would give ten varieties for the compartments nearest to the entrance; and if the same method should be adopted for the other similar compartments, ten other varieties might be introduced, care being taken that the taller growing sorts should always be placed in the beds in the rear.

If more beds for masses should be preferred, some of the remaining may be appropriated for the purpose; otherwise they may, together with all that remain, be furnished with a mixture of such varieties as most approved of.

Box edgings will likely be thought most appropriate, excepting where the grass verges come in contact with the walks. The bason in the centre may have a fountain with gold and silver fish; or the site may be used for any architectural ornament.

In order to make the exterior walk attractive, flowers may be introduced inside the verge.

TO PRODUCE DWARF FLOWERING PLANTS OF THE BRUGMANSIA SUAVEOLENS.

BY JAMES CLARKE, GARDENER, EAST-HOUSE, LIVERPOOL.

As late in the spring as possible, before the buds are moving, make choice of a strong shoot well furnished with buds; cut the shoot into as many divisions as there are buds; insert each bud into a large 60-pot, just covering the eye with mould; plunge the pot into a hot-bed of moderate heat, being careful of too much steam. When the plants appear you may give a little water, but at first moderately, or your cuttings will rot; when your plants are well-rooted, remove them into a colder frame, and by degrees harden them off. About the latter end of May or beginning of June, turn them carefully out of the pits into the open ground, where the soil is not too rich; water them occasionally, but not to often. About the beginning of September they will be dwarf plants, and will show for bloom: as soon as this is perceived, they must be taken up carefully, with as much mould as possible, potted into pots suitable to their roots, and set in a cold frame, keeping them close until recovered from being potted, when they will flower freely, and form a striking object for the greenhouse.

REMARKS ON THE FORMATION, &c., OF GRAVEL WALKS.

BY G. B. N.

I have been a subscriber to your invaluable Magazine for the last five years, and have derived considerable benefit from reading of the different methods of cultivating almost all kinds of showy and popular plants. The Magazine is so strictly a Floricultural one, that I am afraid of getting out of its boundaries with the subject I am about to bring before your readers; however, I will try to keep betwixt the flower-border and the grassy-lawn, and pursue my course along the gravel walk.

Gravel Walks.—I have read a good deal, and heard more, on the formation, &c., of these essentials; but I think that as it regards the cost of construction, a practice of my own is much cheaper than any other that has fallen under my notice. Mr. Beaton has detailed a deal about walks, in the *Cottage Gardener*, which is useful, but his methods "are expensive," especially so to those persons who have to hire.

Last winter, some of the walks in the establishment I am gardener at had become very dirty, and in that state were liable to more than an ordinary crop of weeds, and as I intended covering the walks with fresh gravel in the spring, I had the top taken away to a heap, not intending to lay it on again. However, owing to the water-springs being so high during the entire of the winter and spring months, not a pit could be opened to obtain gravel from. Finding I should have a considerable crop of weeds, and have but little gravel for my walks (being obliged to have them completed as early as possible), I sent for a load of *gas-lime;* but before laying it on the walk, I put some sand along the side of the box and grass edgings, so as to form an embankment, and then laid a thin coating of gas lime over the walk, broke all the lumps by having the roller drawn over them, and then laid on the old gravel which had been taken away, and which, on being replaced, turned out quite fresh again. After being properly spread over the walk, it was raked and rolled down. The following morning, I saw a vast quantity of worms laid dead on the surface of the walk, and after the first shower of rain there were quantities more; but since that time I have not seen either a worm or a weed upon the walks, and they are now as even and hard at the surface as ever Mr. Beaton saw at Shrubland Park or any other place.

The load of "gas-lime" cost one shilling, and that sufficed to cover walks to the length of one hundred and forty yards and five feet wide.

I have not seen any injurious effects either to the box or grass, though a great part of the box was but newly planted. Occasionally after a shower of rain I have the roller drawn over the walks, but it does not disturb the surface, neither does the wheeling of manure, &c., in the barrow make the least impression. The walks, in all respects, are everything that can be desired for such invaluable accommodations to be.

I hope the remarks will be of use to some readers hereof. Care must be taken not to have the gas-lime too near the box or grass, but be kept at least three inches from either. I am confident whoever adopts the method will find it more than answer the expectation. I must observe too, that the *flints* in the gravel are all turned blue by the gas-lime, which gives the walks a pretty appearance, being blue and white.

A FLOWER FOR YOUR WINDOW.

NAMES OF FLOWERS AND MYSTERY OF THEIR BEAUTY.

BY PENELOPE FOSTER.

IN the window beside which I am writing this article, there is a Geranium shining with its scarlet tops in the sun, the red of it being the more red for a back-ground of Lime-trees, which are at the same time breathing and panting like airy plenitudes of joy, and developing their shifting depths of light and shade, of russet brown and sunny inward gold.

It seems to say, "Paint me!" So here it is.

Every now and then some anxious fly comes near it: I hear the sound of a bee, though I see none; and upon looking closer at the flowers I observe that some of the petals are transparent with the light, while others are left in shade; the leaves are equally adorned after their more opaque fashion, with those effects of the sky, showing their dark-brown rims; and on one of them a red petal has fallen, where it lies on the brighter half of the shallow green cup, making its own red redder, and the green greener. I perceive, in imagination, the scent of those good-natured leaves, which allow you to carry off their perfume on your fingers; for good-natured they are, in this respect, above almost all plants, and fittest for the hospitalities of your rooms. The very feel of the leaf has a household warmth in it, something analogous to clothing and comfort.

Why does not everybody (who can afford it) have a Geranium in his window, or some other flower? It is very cheap; its cheapness is next to nothing if you raise it from seed, from a slip, or buy one; and it is a beauty and a companion. It sweetens the air, rejoices the eye, links you with Nature and innocence, and is something to love. And if it cannot love you in return, it cannot hate you; it cannot utter a hateful thing, even for your neglecting it; for though it is all beauty, it has no vanity: and such being the case, and living as it does purely to do you good and afford you pleasure, how will you be able to neglect it?

But pray, if you choose a Geranium, or possess but a few of them, let me persuade you to choose the scarlet kind, the "old original" geranium, and not a variety of it,—not one of the numerous diversities of red and white, blue and white, ivy-leaved, &c. Those are all beautiful, and very fit to vary a large collection; but to prefer them to the originals of the race, is to run the hazard of preferring the curious to the beautiful, and costliness to sound taste. It may be taken as a good general rule, that the most popular plants are the best; for otherwise they would not have become such: and what the painters call "pure colours," are preferable to mixed ones, for reasons which **The Creator** has given when He painted the sky of one colour, and the fields of another, and divided the rainbow itself into a few distinct hues, and made the red Rose the queen of flowers. Variations of flowers are like variations in music, often beautiful as such, but almost always inferior to the theme on which they are founded—the original air. And the rule holds good in beds of flowers, if they be not very large, or in any other small assemblage of them. Nay, the largest bed will look well, if of one beautiful colour; while the most beautiful varieties may be inharmoniously mixed up. Contrast is a good thing; but we should first get a good sense of the thing to be contrasted, and we shall find this preferable to the contrast, if we are not rich enough to have both in due measure. We do not in general love and honour any one single colour enough, and we are instinctively struck with a conviction to this effect when we see it abundantly set forth. The other day I saw a little garden wall completely covered with Nasturtiums, and felt how much more beautiful it was than if anything had been mixed with it; for the leaves, and the light and shade, offer variety enough; the rest is all richness and simplicity united, which is the triumph of an intense perception. Embower a cottage thickly and completely with nothing but Roses, and nobody will desire the interference of another plant.

Everything is handsome about the Geranium, not excepting its name, which cannot be said of all flowers, though we get to love ugly words when associated with pleasing ideas. The word "Geranium" is soft and elegant; the meaning is poor, for it comes from a Greek word signifying a crane, the fruit having a form resembling that of a crane's head or bill. Crane's-bill is the English name of Geranium, though the learned appellation has superseded the vernacular. But what a reason for naming the *flower!* as if the fruit were anything in comparison, or any one cared about it. Such distinctions, it is true, are useful to botanists; but as plenty of learned names are sure to be reserved for the freemasonry of the science, it would be better for the world at large to invent joyous and beautiful names for these images of joy and beauty. In some instances we have them; such as Heart's-ease, Honey-suckle, Marygold, Mignonette ("little darling"), Daisy (day's-eye), &c. And many flowers are so lovely, and have associated names otherwise unmeaning so pleasantly with one's memory, that no new ones would sound so well, or seem even to have such proper significations. In pronouncing the words Lilies, Roses, Pinks, Tulips, Jonquils, we see the things themselves, and seem to taste all their beauty and sweetness. "Pink" is a harsh, petty word in itself, and yet assuredly it does not seem so, for in the word we have the flower. It would be difficult to persuade ourselves that the word *rose* is not very beautiful. "Pea" is a poor, Chinese-like monosyllable; and "Briar" is rough and fierce, as it ought to be; but when we think of *Sweet-Pea* and *Sweet-Briar*, the words appear quite worthy of their epithets. The poor monosyllable becomes rich in sweetness and appropriation; the rough dissyllable also, and the sweeter for its contrast. But what can be said in behalf of Liver-wort, Blood-wort, Dragon's Head, Devil's-bit, and Devil in a Bush?

The names of flowers in general, among the polite, are neither pretty in themselves, nor give us information. The country people are apt to do them more justice. Goldy-locks, Ladies'-fingers, Bright-eye, Rose-a-rubie, Shepherd's-clock, Shepherd's-purse, Sauce-alone, Scarlet-runners, Sops-in-wine, Sweet-William, &c., give us some ideas either useful or pleasant. But from the peasantry also come many uncongenial names, as bad as those of the botanists. Some of the latter are handsome as well as learned, have meanings easily found out by a little reading or scholarship, and are taking their place accordingly in popular nomenclatures,—as Amaranth, Adonis, Arbutus, Asphodel, &c.; but many others are as ugly as they are far-fetched; such as Colchicum, Tagetes, Yucca, Ixia, Mesembryanthemum; and as to the Adansonias, Brow-allias, Koempferias, John Tompkinsias, or whatever the personal names may be that are bestowed at the botanical font by their proud discoverers or god-fathers, I have a respect for botanists and their pursuits, and wish them all sorts of little immortalities except these, unless they could unite them with something illustrative of the flower as well as themselves. A few, certainly, I should not like to displace; Browallia for one, which was given to a Peruvian flower by Linnæus, in honour of a friend of his of the name of Browall; but the name should have included some idea of the thing named. The Browallia is remarkable for its brilliancy. "We cannot," says Mr. Curtis, "do it justice by any colours we have." Now why not have called it Browall's Beauty, or Browall's Inimitable? The other day I was *admiring* an enormously beautiful apple, and was told it was called "Kirk's *Admirable*," after the gardener who raised it. I felt the propriety of this name directly. It was altogether to the purpose. There was use and beauty together,—the name of the raiser, and the excellence of the fruit raised. It is a pity that all fruits and flowers, and animals too, except those with good names, could not be passed in review before somebody with a genius for christening, as the creatures did before Adam in Paradise, and so have new names given them worthy of their creation.

Suppose flowers themselves were new,—suppose they had just come into the world, a sweet reward for some new goodness, and that we had not yet seen them quite developed; that they were in the act of growing; had just issued with their green stalks out of the ground, and engaged the attention of the curious. Imagine what we should feel when we saw the first lateral stem bearing off from the main one, or putting forth a leaf, how should we watch the leaf gradually unfolding its little graceful hand; then another, then another; then the main stalk rising and producing more; then one of them giving indications of an astonishing novelty, a bud! then this mysterious lovely bud gradually unfolding like the leaf, amazing us, enchanting us, almost alarming us with delight, as if we knew not what enchantment were to ensue; till at length, in all its fairy beauty, and odorous voluptuousness, and mysterious elaboration of tender and living sculpture, shone forth

——— "the bright consummate flower?"

Yet this phenomenon, to a mind of any thought and lovingness, is what may be said to take place every day; for the commonest objects are only wonders at which habit has made us cease to wonder, and the marvellousness of which we may renew at pleasure, by *taking thought*. Last spring, walking near some cultivated grounds, and seeing a multitude of green stalks peeping forth, I amused myself with likening them to the plumes or other head-gear of fairies, and wondering what faces might ensue; and from this exercise of the fancy fell to considering how true, and not merely fanciful, those speculations were; what a perpetual reproduction of the marvellous was carried on by Nature; how utterly ignorant we were of the causes of the least and most disesteemed of the commonest vegetables; and what a quantity of life, and beauty, and mystery, and use, and enjoyment was to be found in them, composed out of all sorts of elements, and shaped as if by the hands of fairies. What workmanship—with no apparent workman! What consummate elegance, though the result was to be nothing (as we call it) but a radish or an onion, and these were to be consumed or thrown away by millions! A rough tree grows up, and at the tips of his rugged and dark fingers he puts forth,—round, smooth, shining, and hanging delicately,—the golden apple, or the cheek-like beauty of the peach. The other day I was in a garden where Indian corn was growing, and some of the cobs were plucked to show me. First one leaf or sheaf was picked off, then another, then another, then a fourth, and so on, as if a fruit-seller was unpacking fruit out of papers; and at last we came, inside, to the grains of the corn, packed up into cucumber-shapes of pale gold, and each of them pressed and flattened against each other, as if some human hand had been doing it in the caverns of the earth. BUT WHAT HAND!

The same that made the poor yet rich hand (for is it not His workmanship also?) that is tracing these marvelling lines, and which if it does not tremble to say so, it is because Love sustains, and because the heart also is a flower which has a right to be tranquil in the garden of the All-wise.

MANAGEMENT OF AZALEAS.

BY MR. WILLIAM MAY, HOPE HOUSE, BARNET.

THE splendid specimens which are exhibited in and round London, of the Azalea indica, being much superior to any I have seen at the country shows, induces me to send the particulars of culture.

As soon as the plants have done flowering, if shifting is necessary, prepare some compost mould for them in the following proportions:—two-thirds bog earth, one-third well decomposed tree-leaf mould, and one-twelfth sharp silver sand: they must not be sifted, but well chopped and broken with the spade; any lumps remaining may be broken with the hand. Having a pot a size larger than the one the plant to be shifted has been growing in, and washed clean inside and out, then proceed to pot the plant, taking care the drainage is well attended to, for upon this depends in a very great measure the success of the plant. In potting, I think it an advantage to place the centre of the ball rather lower than the mould at the outside of the pot, and form as it were a little basin inside, as by this means the whole mass of roots is benefited by the water given from time to time; and if the drainage is effectually performed, the water will pass through as freely and quickly as when the plant is potted high in the pot. The plants being potted, place them in the stove, where attention must be paid to watering when necessary. They will be very much benefited by being syringed all over at least once a day; and in sunny days they will require to be syringed three or four times each day. With this treatment they will grow amazingly, and in the course of six or eight weeks will have made shoots from three to nine inches in length. They must be kept in the stove till the flower-buds for the ensuing year have attained the size of a small pea, which can easily be ascertained by feeling the ends of the shoots; they should then be placed in the greenhouse for ten days or a fortnight to harden, when, if the weather is suitable, they may be placed out of doors in a cool airy situation, till the time for taking in the general stock of greenhouse plants.

Where the plants have bloomed so profusely as almost to exhaust them, tie some moss round the principal stems, and keep it constantly moist; this will cause them to break regularly and grow freely.

Where there is not the convenience of a stove, I would recommend that the plants be kept in the greenhouse till the buds are well set; and should this happen so late that there are but two or three weeks for them to have the advantage of the open air, still setting them out will be found highly serviceable.

If the foregoing particulars are attended to, the roots will be emitted in such abundance as completely to fill the pots; and instead of being liable to perish from over-watering, it will be almost impossible to give them enough, the close mass of thirsty roots absorbing an almost incredible quantity of moisture. Treated as above described, all the species and varieties of this splendid tribe will answer the most sanguine wishes and expectations of the cultivator; and I think it is impossible to bloom some of the sorts properly, as Smithii, and others, under any other mode of treatment:—instead of producing here and there a flower, as is often the case, the plants will be one entire mass of bloom, expanding their brilliant flowers from two and a half to three inches across, and commanding the admiration of all who behold them.

Where it is required, and the stock of plants is sufficient, the blooming season may be protracted from September till June, affording charming ornaments for autumn, winter, and spring.

BUDDING ON THE COMMON CHINA ROSE.

BY A COUNTRY CURATE.

Having seen the common China Rose (Rosa indica) flowering in the greatest luxuriance most part of the year, when trained against a trellis, wall, and even the open border, I have often felt surprised that buds of many of the more choice kinds were not inserted in their branches, as all who have any knowledge on the subject are aware that, as stocks, the China Roses afford every chance of success.

In selecting buds, it must be remembered that all the different varieties will not grow with equal success; it will be necessary, therefore, to choose the free-growing kinds, or such as seem to partake of the same habit, and require similar treatment to the common China Rose. The Rosa Semperflorens, Boursoult, Noisette, &c., seem to flower better and grow stronger than when supported by their own natural roots. The Moss Rose, Tuscany, and others of similar habits, will not flower more than two or three years at the farthest; for the shoots they are budded upon soon begin to decay, which renders it necessary to insert a succession of young buds annually, and to cut the old ones away. Some of the free-growing kinds will flower the same year they are budded; these should be cut back to two or three eyes in the winter, and also the shoots they are budded upon to one eye above each bud; those sorts which are of slower growth will require the shoot leaving several eyes above the bud, as it is apt to die down when cut close to the bud. Budding Roses on a trellis is more to be recommended than budding the different sorts on standards. A Standard Rose makes an object in itself, and I think is more calculated to please without mixture on the same plant; but with regard to the trellis, it is the greatest object to have a regular succession of flowers of different colours in perfection throughout greater part of the year on the same plant.

GENTIANA BAVARICA.

Dr. Griesebach, in his excellent article "Gentianaceæ" of the Prodromus, 1845, enumerates no less than 153 species of Gentians, grouped, according to the singularly diverse habits and floral structures, in fourteen natural sections. These species are mostly Alpines, strangers to Africa and New Holland, rare in the Indian Peninsula, but abounding in the elevated zones of the Himalayan Chain, the temperate and cold regions of Europe, in Siberia, and of North America, though but few are found on the mountains of Central America or the Andes, and a very small number are inhabitants of Chili, Patagonia, New Zealand, and Van Diemen's Land.

Gentiana Bavarica is not, as its name would appear to indicate, a species particular to Bavaria, as it is found in many places of the mountain regions of Central and Southern Europe, as far as Naples and the borders of Spain. It is a very charming plant, of dwarf, bushy habit, a neat and compact foliage of lively green. The flowers are produced abundantly, and are of a bright deep azure blue, which it is beyond the art of the painter to imitate. To those fond of Alpine plants, or wishing for a really good thing to place on a clump of rock-work, this Gentian will be found a great acquisition. It will be found to flourish best in a strong loam.

CULTURE OF WHAT ARE USUALLY CALLED CAPE GERANIUMS.

BY A LONDON EXHIBITOR.

I EMPLOY the term Geranium, as being the most popular, though the proper botanical term is Pelargonium, and its English name Stork's-bill (Pelargos. Stork), the fruit or seed having a beak like a stork's bill.

The Cape species, which are under consideration, have "thick, fleshy, tuberous roots," and some of them have "short stems," but many have no stems, the leaves and flowers springing immediately from the roots. Some are exceedingly beautiful, as P. longiflorum, niveum, undulæflorum, roseum, astragalifolium, asarifolium, dipetalum. Another section of them have stems, as *bicolor*, *echinatum*, &c. All of them are pretty, some very handsome, and where there is convenience, are *well worthy* of cultivation. Unfortunately, they require considerable care to cultivate them successfully, and hence they are much out of fashion; which I am sorry for, as I am pretty certain, if they were better known, and oftener seen, they would be more in request.

A good greenhouse is the best situation for them during winter and spring; when in a growing state, they should be as near the glass as the arrangement of the house will admit. Plenty of air must be given on all favourable days. They should be frequently syringed with cold water, and be smoked with tobacco, whenever insects make their appearance.

During the growing season, they require watering pretty freely, but as soon as they have done flowering, and their leaves begin to turn yellow, decrease the quantity of water gradually; the best method to do this will be to water once in three days, then once a week, then once a fortnight, and, lastly, once a month, by which time they will be completely at rest, when no water must be given to them till they begin to grow again, which may be looked for about February or March. When at rest, any situation where they can be kept moderately dry and cool, will do for them. Heat, light, and moisture not being necessary.

The best time to increase this section of Pelargoniums, is just before they begin to grow. Take off a small tuber or two where they can be spared from each plant, and pot them into as small pots as they can be placed, just to cover them; place them in gentle heat, giving but little water until they begin to grow, when they may be removed among the established plants, and the ordinary culture given; they may also be increased by seed, which, however, they do not produce so freely as the shrubby species.

The best soil for those plants is an equal mixture of loam, peat soil, and dung; they require also well draining, by placing plenty of broken potsherds at the bottom of each pot at least one inch thick.

The section that have stems.—Many of those are rather difficult to cultivate, and, in consequence, are comparatively scarce; but if the following directions are attended to, the difficulty will be surmounted.

The species under this head are represented by Pelargonium tricolor, bicolor, elatum, pendulum, tetragonum, fulgidum, elegans, flexuosum, quinquevulnerum, ardens, &c.

As they are all shrubby species, they require watering all the year, though always carefully, for if the soil gets sodden with water for a length of time, it is fatal to the plants. They also require greenhouse treatment during winter and spring; in summer they require placing out of doors in an open situation, screened from high winds, and set upon a bed of ashes so thick, as to prevent worms from getting into the pots; keep them clear of weeds, tied up neatly, and regularly watered during dry weather. Pot them into larger pots when they require it; the best season for which operation is the month of April.

The compost I have found them to grow best in is loam, peat earth, vegetable soil, and sand in equal parts,

To propagate them, take youngish cuttings off about the month of May; fit some bell or small hand-glass to such a number of pots as may be required; fill them half full of broken potsherds, rough bits of turf, or anything that will permit the water to pass off freely; put in upon them as much of the compost as will fill the pots up to one inch of the rims, and fill up to the top with pure sand, then give a gentle watering, and insert the cuttings, giving more water to settle the sand close and firm to them. When pretty dry, cover them with the glasses, and place them in a gentle heat; pot them off when struck, and keep them close and warm until they have struck root again; then give them the ordinary treatment, as to situation, air, watering, potting, and so forth. Some of this section seed also, but not freely

MISCELLANEOUS SECTION.

Arrangement of Plants, &c.—The time for housing greenhouse plants, &c., being near, I forward a few remarks on the necessity of a reform in their arrangement, that the objectionable stiff surface which has been almost universally adopted from time immemorial may be done away with, and be succeeded by a natural arrangement. A few remarks, I think, will point out the necessity and advantages of improvement.

Suppose an artist of eminence introducing into one of his pictures a group, of whatever size, of human beings, cattle, or various vegetable forms, we should in an instant perceive the absurdity and want of taste displayed, if he placed them in rows, so that the objects in each row ranged about the same height upon the canvas, those farthest off being of course highest. No variety of costume, figure, features, or accompaniments, would atone for such a radical defect. And yet this would only be in conformity with the practice of arranging plants, whether on stages or borders, in regular successional rows, the highest at the back.

But if, on the other hand, we imagine the artist scattering his figures about, so as to make their relative heights and general arrangement as varied as possible, some one, two, three, or more of them having particular prominence given them, and either rising higher in the background or advancing further forward in front, and the whole insensibly blending and harmonising, so as to form but one great assemblage; though, perhaps, partially broken up into several different subordinate groups; every one, however unable to appreciate the process of art by which all is accomplished, will be pleased with the general result, and will glance from object to object, and from group to group, with a heightened relish for the entire performance, from the gratification which each part has occasioned.

And thus it is with a well-arranged shrubbery, border, or plant-house. There is enough in the details to occupy the attention and please the eye throughout the entire collection, while the attractiveness of the whole is rendered all the greater by the interest of the several parts. It is not all seen at once, but leads on the spectator from point to point, presenting to him, in however limited a space, continually fresh parts. There are no true or regular lines; but all is freeness, variety, and grace. And all the best specimens of the finest and most peculiar form stand out in relief, and are thoroughly seen.

The objections to the more common method of arranging plants, so as to slope gradually and uniformly from the back to the front of the border or stage, are, that the effects just specified are entirely reversed. The eye takes in all at one look, and there is no inducement to the spectator to pass along the front and examine it minutely. Being all placed at a regular angle, also, the plants lose their individuality. There is no play of outline, no wavy line of beauty, no patches of intermingled sunlight and shadow; the finest and most beautiful plant ranks on a level with the most insignificant, and is only equally seen. In fact, it is merely the tops of each specimen that present themselves to the observer, and whatever there may be remarkable in either habit, foliage, or flowers, is, to a great extent, lost by being mingled with the common mass.

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

NOW sow seeeds of annuals, as Clarkia, Collinsia, &c., in small pots, well drained, and keep them in a cool frame, or other suitable place during winter; then turn the plants out, entire (or split the balls) into the open borders, in March or April, and they will soon be in bloom, and ornament the garden at an early period. Seeds of many kinds, *now sown* in the *open border*, generally survive the winter, and bloom vigorously early the next season. *Carnations:* the layers should be taken off, severing them *at a joint* as near the root as possible. Only a few of the bottom leaves should be trimmed off to admit the compost to settle closely round the stem, and that no leaves may rot inside the soil, and be likely to damage the main stem. The compost in which to pot them must not be rich, or the plants will be likely to grow too vigorous, and become what florists term too gross. Equal portions of year-old turfy loam and leaf-mould, with a small proportion of sand mixed therein, is rich enough, and of a dryish texture, and the plants keep healthy in it if otherwise duly attended to. In potting, place two layers in each pot. Put them in a cool frame for about ten days, keeping the lights closed, and shaded from mid-day sun; this contributes to an immediate striking root afresh; afterwards they may be fully exposed in a sheltered spot, having a thick floor of coal-ashes or boards to place the pots upon, in order to prevent worms entering. *Pinks:* beds of them may still be made, and the earlier the more successful: dig into the bed four inches in thickness of old manure; do it a week or so before planting, and plant as early in the month as you can. *Pansies:* beds of them should be made for next spring bloom. Pot some of all the best kinds in small pots, to be placed in a cool frame during winter. If the sowing of the seeds of biennials, as Scabious, Canterbury Bell, Brompton and Queen Stocks, &c., has been neglected, they should be attended to as early as possible. *Verbenas:* runners should be potted in small pots, a third filled with potsherds, and the rest with good loamy soil, placing them in a close cool frame for ten days, shading from mid-day sun; after which gradually expose them to open air. Attention to them should be *immediate. Bulbs*, as Hyacinths, &c., are now to be had, and the sooner they are potted, the more vigorous they will bloom. *Chinese Primroses* should be encouraged for winter blooming. If mildew appears on any plants, dust them with sulphur immediately. *Camellias* may be grafted; the operation may be performed with the greatest success by pursuing the method the French call "*graffe en placage*," which is merely inserting that portion of wood that includes a bud and leaf cut longitudinally into a corresponding cleft in the stock. The grafted subjects should be plunged in bottom heat, and kept covered for at least a month. *Roses* may still be budded. Nail to the wall young shoots of Banksian Roses. Cut clean away those not wanted. Prepare beds of *Sweet Violets.* Roses for forcing too.

IN THE GREENHOUSE, &c.

Cuttings of nearly all plants may yet be successfully struck; but the earlier they are put in the better. Towards the end of the month take in the tenderer greenhouse plants; but the house should be whitewashed, &c., previously, if required. Repot *Chrysanthemums*, if the pots they are in be full of roots; give manure-water once a week. *Cinerarias:* pot off singly the offsets, also seedlings. Seed may still be sown, but as early as possible. Cuttings of bedding plants should be put in directly. Pot off singly rooted cuttings of *Pelargoniums*, &c. Cuttings of *Tea Roses, China, Bourbon*, &c., soon strike root at this period.

BRIEF REMARKS.

Hybridizing the Pansy.—Grow the plant in a pot, and keep it remote from others. Before the flower or flowers you intend to have seed from is fully blown, clip off the anthers, and when fully expanded, obtain pollen from another flower of equal merit in form, or, in some respects, superior in colours, &c., and impregnate those which are to produce the seed. F. C., I observe, asks for information, and the above mode of procedure I have adopted successfully for several years.—*Thomson.*

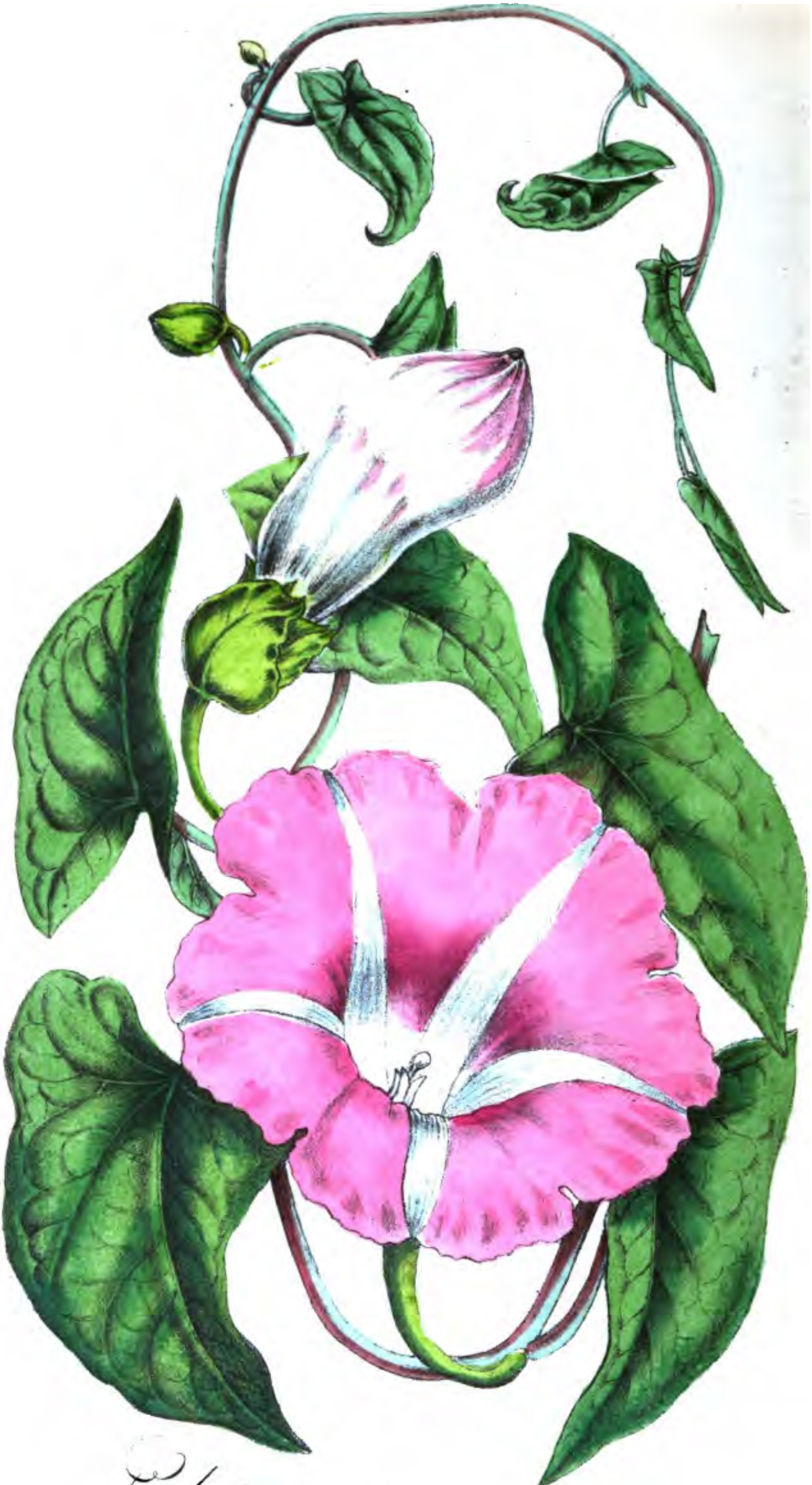
On Salpiglossises Dying off, &c.—Last season I raised about one hundred plants of different species and varieties of Salpiglossises. I kept them in pots, in a light and airy greenhouse; in spite, however, of all my exertions, the plants died, either wholly or a portion of a plant, and I could not ascertain the cause. They grew and flowered vigorously till the disease happened to them, and then in a day or two they were prostrate. The plants were not over-potted, and had plenty of drainage at the bottom, as well as a good open soil. I sprinkled them occasionally over the tops when it was done to the other plants. If some correspondent of the *Cabinet*, who may be acquainted with a preventative, would inform me, I should esteem it a favour conferred on *Juvenis.*—P.S. I have a number of young plants raised this spring, I am anxious to have them succeed till winter.

A Hedge of Camellias.—As a proof of the mildness of our Dorsetshire climate, I may mention that at Lower Lytchett, a few miles from hence, may be seen in the open air a hedge of Camellias, more than ten feet high and twenty or thirty yards in length, of most luxuriant growth, and which is a perfect blaze of blossom and far more healthy and vigorous than I have ever seen the plant in any greenhouse; near it also stands an Araucaria nearly thirty feet high.—*The Rev. Frederic Fane, in the Naturalist, July* 1853.

To prevent Hares or Rabbits destroying Trees, Shrubs, or other Plants.—Cut pieces of calico to about six or eight inches square, and dip them in melted brimstone, then put each piece in a cleft-top stick of about half a yard high, and place them here and there amongst the trees, shrubs, or flowering plants, as Carnations, Pinks, &c. during winter. It is a certain preventative from injury by these animals.

Guano applied to Plants in Pots.—If the guano be good, one ounce to six gallons of water will be strong enough for *hard* wooded plants, and for *soft* wooded ones an ounce and a half to the same quantity of water. Care must be taken to stir the guano well when put into the water, so that it be diffused throughout.—*A Successful Practitioner.*

Aphelexis.—These charming everlasting-flowering plants are easily propagated. Cuttings of firm young wood root freely enough, as do also bits of ripe wood having several shoots. They should be put in early in spring, planted in very sandy peat, covered with a bell-glass, placed in a temperature of about fifty-five degrees—and, if properly cared for as regards water, and guarded from damp, they will soon emit roots. If ripe pieces of wood are used, they will be longer in emitting roots than young cuttings, but they will form plants sooner.



Calystegia sepium incarnata.

FLORICULTURAL CABINET

OCTOBER, 1853.

> "No spring or summer's beauty hath such grace
> As I have seen in one autumnal face:
> For autumn tinges every fertile branch
> With blooming gold, and blushes like the morn;
> And leaves are tinged with beauty far above
> Spring's gayest hues, or brightest, freshest green;
> Their blending shades of every tint are seen,
> Pale amber, half transparent in the ray
> Of the bright sun; while others shine in more gorgeous colours."

ILLUSTRATIONS.

CALYSTEGIA SEPIUM, VARIETY INCARNATA.

(*Synonyme, Convolvulus sepium incarnata.*)

THE name CALYSTEGIA is from *kalyx*, calyx; and *stega*, a covering, in allusion to the large covering which the Calyx forms. The genus was first formed from some of the Convolvuluses, and belongs to the Convolvulacæa. The name *Convolvulus* is derived from the Latin, *Convolvere*, to entwine or wind about, referring to the habit of some of the species twining their stems round other bodies, and *binding* them:

> "Convolvulus, expand thy cup-like flower,
> Graceful in form, and beautiful in hue."—BARTON.

The form of the blossom of a Convolvulus is considered equal, if not superior to, every other flower. The gracefully-shaped cup, or chalice, is like the end of a French horn, and which, in the reversed state, resembles the elegant roofs of the Chinese pagodas.

The Convolvulus opens and closes its monopetalous flower with folds similar to those of a parasol, they are never expanded during night, or in wet weather, in order that the anthers and stigma may be guarded from the humidity of the air, and on this account it is named by the French, DAY BEAUTY.

"Like flow'rs, which, shrinking from the chilly night,
Droop and shut up; but, with fair morning's touch,
Rise on their stems, all open and upright."

Perhaps we have not a native plant which displays a more beautifully-formed corolla than the GREAT BINDWEED (Calystegia, or "Convolvulus" sepium), which entwines itself so firmly among the shrubs of our hedgerows until it reaches the top, where it expands its monopetalous flowers in a dress that challenges the spotless snow for purity, and would demand more general admiration were it less common.

The handsome plant we now figure is a variety of C. sepium, Great Bindweed, and it originated in North America, from whence it was introduced into our own country. It is a hardy perennial, growing freely, and blooming profusely. It forms a very handsome object when trained up a pillar, stake, trellis, or allowed to spread over the branches of a young tree, which has been cut up for the purpose. The spreading and drooping shoots in profuse bloom form beautiful festoons. The roots of this variety do not spread so much as the common hedge plant, nor is it so rampant with its shoots.

The roots are easily kept within any desired bounds, by planting in a large-sized garden-pot, and not allowing the soil to be higher than two or three inches below the rim, but cover the soil and rim of the pot with moss. Thus grown, the plant can be managed so as to grow to a suitable size for a stake six or eight feet high, and the larger the pot the higher the plant will rise. We have seen it grown in narrow boxes, which are bought for a few pence each of the general grocers, and those sunk in the ground endure for many years, care being taken the roots are confined therein. We had it for training as a low hedge around a large oval bed, and, to keep it in due bounds, a channel was formed around the inside of the bed next the grass, and the bottom and sides were formed of the usual kind of brickwork, and being filled with soil, the plants succeeded very admirably, and bloomed from May to November, every season. The plants were trained to a neat wire trellis, a foot high, and every day during summer and autumn were in beautiful bloom.

Plants grown in large pots, and sunk at a yard, or two yards apart, around a bed, would succeed, giving due attention to watering.

There is also a variety that has flowers of a lavender-lilac colour, with five broad stripes of white; they are very large and handsome. Both varieties are beautiful, and merit a place in every flower-garden.

NOTES ON NEW OR RARE PLANTS.

BRASSAVOLA LINEATA.—THE LINE-LEAVED.—A South American orchid, which was purchased at one of the sales of Mr. Warsowitz's plants in London, in 1852, by Messrs. Jackson, of Kingston. It is an Epiphyte, having short, creeping stems, and the flowers are produced in pairs, drooping. The sepals and petals are very narrow, three inches long, of a pale yellowish-green; sepals slightly tipped with red. The lip is very large, heart-shaped, white.—(Figured in *Botanical Magazine*, 4734.)

GILIA LUTEA (Synonyme, Leptosiphon lutea).—This pretty hardy annual is figured in the September *Botanical Magazine*. Each blossom is about half an inch across, of a bright sulphur-yellow, with an orange eye. The flowers are borne in terminal heads, and being numerous, when grown in masses are showy. The stems rise from six to ten inches high. Sir W. J. Hooker states, "We follow our able countryman, Mr. Bentham, in uniting Leptosiphon with Gilia, from which it seems to differ in scarcely anything but the length and tenuity of the tube of the flower.

IMPATIENS JERDONIÆ.—MRS. JERDON'S BALSAM.—Sent from the East Indies to the Royal Gardens of Kew, by Mr. M'Ivor, where it has bloomed this season in the greenhouse. The stems of the plant, in form, are much like those of *Cacalia articulata* (the commonly-called candle-plant), jointed, gouty, of a dark purple colour. The leaves are only upon the upper parts of the stems, oval, about two inches long, of a bright green. The flowers are produced at the extremities of the shoots; each having from four to ten blossoms. Sepals green; lateral ones yellow, and the anterior *petal* very large, forming a curved, compressed, red sack, with a short *spur*. Each blossom is about an inch across.—(Figured in *Bot. Mag.* 4739.)

RHYNCHOSPERMUM JASMINOIDES. — JASMINE-FLOWERED. — An evergreen shrub, a native of China; Mr. Fortune found it at Shanghai. It has hitherto been grown in our stoves. It is an erect plant, with an inclination to be a climber. The plants bloom freely even when young, and before the climbing character appears. The flowers are white, somewhat resembling those of the white Jasmine, and are borne in corymbous heads. They are as deliciously fragrant as the Jasmine. —(Figured in *Bot. Mag.* 4737.)

The following plants we have recently seen in bloom, and are likely to flower through the season:

CAMPANULA PEREGRINA.—A hardy perennial. The flower stems are from two to three feet high, and half the length is adorned with its fine flowers. Each blossom is two inches across, bell-shaped, of a pretty purple-blue with a striking dark eye. The leaves are heart-shaped, four inches long. It merits a place in every flower-garden.

PENTSTEMON ROSEUM.—The floral stems grow to about three feet high, are numerously branched, and bloom in profusion. Each flower is about an inch and a half long, tube outside of a rich rose, and the inside of a dark purple colour. It is very handsome and ought to be in every flower-garden.

CAMPANULA FORMOSA.—The floral stems are from two to three feet high. Each blossom, funnel bell-shaped, is about two and a half inches across, and is semi-double; the outer row of petals is blue and the inner row white. It is very pretty and ought to be in every flower-garden.

CAMPANULA CELESTINA.—Its numerous slender stems grow about ten inches high, bearing a profusion of rich blue bell-shaped flowers, drooping. Each blossom is an inch long. It is exceedingly neat and pretty.

CAMPANULA CARPATICA LONGIFOLIA.—It is a profuse bloomer, and each blossom, bell-shaped, an inch long; white. Very pretty.

DRACOCEPHALUM ARGUNENSE.—A hardy, spreading, bushy, perennial plant, growing a foot high, and blooming profusely. The leaves are narrow. The flowers are of a bright blue, and the tube of each blossom two inches long. It is very handsome, meriting a place in every flower-garden.

PENTSTEMON AZUREUM.—A bushy plant of this fine species, having twenty-six spikes of flowers. The strongest were nearly three feet high, and the others two feet and upwards. Two-thirds of each floral stem was in profuse bloom, and its bright blue flowers tinged slightly with rose, rendered it very beautiful and ornamental. When properly cultivated it is exceedingly pretty, and ought to be in every flower-garden.

PENTSTEMON THEMESTERAN.—The plant is bushy, growing two to three feet high, and blooming very profusely. Each flower is about two inches long, of a bright rose colour. Very pretty, distinct, and showy.

POTENTILLA MECKLENIENSIS.—This very beautiful plant grows two to three feet high, and blooms in profusion. Each flower is nearly two inches across, and has ten petals, which are so neatly arranged as to form an entire *full circle*. They are of a pretty light yellow with a rich orange-coloured eye. It is exceedingly pretty.

IMPATIENS HOOKERIANA.—This is one of the erect-growing, shrubby-like Balsams, belonging to the class now grown in the shrubbery. It was introduced into this country from Ceylon, by Mr. Thwaites. We saw it in bloom last season at the Royal Gardens of Kew. The flowers are produced in terminal heads of from three to six in each. Each blossom has what is termed a flat face, two and a half inches long by one and a half broad; white, beautifully marked with streaks of crimson. The outside of the flower and the long spur are of a pale yellow. It is very handsome, and flourishes in the greenhouse, or during summer in the open border in sheltered situations.—(Figured in Van Houtte's *Flore*, 831.)

PELARGONIUM AUGUSTE MIELLEZ.—In our August Number, we mentioned some of the very handsome varieties which had been raised from seed by the gardener of Mr. James Odier. This is another of his seedlings, of remarkable beauty. The upper petals have a large clouded blotch of nearly black crimson, with a broad belt of bright crimson and a light margin. Each of the three lower petals have a very distinct dark spot edged with orange, and the white ground of the rest is beautifully chequered with orange-red and have a white margin. The centre of the blossom is tinged with violet. Each flower is about two and a half inches across, and of good shape. The plant, too, is a very free bloomer. It is very ornamental, and a charming acquisition as a bedding variety, or for the greenhouse.—(Figured in Van Houtte's *Flore*.)

OXALIS VERSICOLOR.—This old "greenhouse plant" was introduced into this country many years ago, and it merits a place "in every one." It forms a spreading, branching, somewhat bushy plant, if properly tied up; or if left loose, will hang over the side of the pot. The foliage is finely trifoliate and very neat. The flowers are borne in abundance, each blossom being an inch across, white, margined with rich red, and the lower part of the tube yellow. It grows freely, may be procured cheap, and ought to be grown wherever practicable.

ONCIDIUM CUCULLATUM.—A beautiful stove orchid, producing its flowers in racemes ten or a dozen in each. The sepals and petals are green, blotched and barred with brown. The lip is very large, of a rosy-lilac, very distinctly and numerously spotted with dark maroon, and a dash of yellow at the claw. Each blossom is about two inches across. It merits a place in every collection.—(Figured in Van Houtte's *Flore.*)

HOYA VARIEGATA.—This very handsome species was first brought into notice in 1846, but we have not heard of its blooming in Europe prior to 1852, when it flowered in the gardens of Prince Frederic of Pays-Bas, in Germany. We have had it some time, and have seen strong plants in several other places in England, but not seen one yet in bloom. Probably some difference in its constitutional character requires a peculiar mode of treatment, varying from what the other kinds have, in order to cause it to blossom. The general form and habit of the plant is much like our old favourite, *Hoya carnosæ.* The leaves, when young, are green, with a broad, irregular-shaped margin of a cream colour, edged with rosy-red. When they are fully grown, the rosy-red and cream colour change to a silvery white. The flowers are produced in similar shaped pendulous heads to H. carnosa, but the individual blossoms are about one-third less. Each head contains from thirty to forty flowers, *rose coloured,* and the corona is white, with five rosy-purple stripes and a yellow centre. They are very beautiful, and with the pretty variegated foliage render the plant very ornamental, and well entitled to a place in every collection of stove or greenhouse plants. —(Figured in Van Houtte's *Flore.*)

RHODODENDRON DUC DE BRABANT.—This very beautiful flowered variety is an hybrid between R. catawbiense and R. maximum, raised in Belgium, and obtained a principal prize at the great Floral Exhibition held in June, 1853. The heads of flowers are very large, and each blossom is about four inches across the face. They are white, edged with rosy-lilac, and about half of each of the upper segments is orange, beautifully spotted with rosy-red. It is a charming variety, well worth possessing.—(Figured in Van Houtte's *Flore.*)

Plants now in bloom at Kew and other places.

CYANANTHUS LOBATUS.—It is rarely seen well bloomed in the greenhouse, but if planted out in the open ground during summer, as other tender bedding plants are, it grows very freely and blooms in profusion. The flowers rise about four inches high, in shape like a small-sized perriwinkle, blue. It spreads well about the border, and has an interesting appearance.

SCUTULARIA ALPINA.—A hardy perennial, very beautiful. The plant grows a foot high, having numerous branches, and spreads freely around. Its profuse number of spikes of flowers render it very ornamental. The tube-shaped blossoms are blue with a white lip, contrasting prettily.

Nepeta macrantha.—A hardy perennial, its numerous flowering spikes growing from two to three feet high, bearing a vast profusion of tube-shaped, pale blue flowers; each blossom an inch and a half long.

Dianthus trifusculata.—A hardy species, growing erect, two feet high. The flowers are produced in terminal heads, each blossom an inch across, of a bright pink colour. It is a profuse bloomer, and merits a place in every flower-garden.

Achillea ageratum.—A hardy perennial, the flower stems rising two feet high. The flowers are produced in very large, terminal heads, of a rich yellow. It is a profuse bloomer, neat growth, very showy, and entitled to a place in every flower-garden.

EVERGREEN PHYSICAL HERBS, ORNAMENTAL TO THE FLOWER-GARDEN OR SHRUBBERY.

BY MR. PETER MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

In small gardens there might be formed a very useful and ornamental collection of evergreens, that would not occupy much space, and many of them would be of use in a family nearly all the year round. They are not expensive to purchase, nor difficult to keep after they are planted; for they commonly thrive best in soil that is light and dry, and they will not complain, although they be somewhat stinted in their food; for when they are over fed, they generally lose much of their virtue and hardiness.* We shall now notice some of them, and begin with **Sage.** Its name is derived from *Salvo*, "to save." There are many varieties of **Salvia officinalis** that are easily cultivated, and are much esteemed by many; the *narrow-leaved* is sometimes called *Pea-sage*. We once lived at a place where a late Prime Minister used frequently to take up his abode, and had some share in taxing the teas that came from China; yet he preferred the Tea-sage, for a quantity had to be gathered every morning from the garden, and tea be prepared for his breakfast. *Sage* has a strong fragrant perfume, and a warm, bitterish, aromatic taste. It was in ancient times considered as a remedy of general efficacy in all diseases; hence the old adage,—"Why should a man die while he has *Sage* in his garden?" When the Sage is grown in a mass, its numerous spikes of blue flowers are very ornamental. We are also informed that the Chinese, who are said to have experienced the good effects of *Sage*, value it highly, and in some cases prefer it to their own tea.

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* The evergreens we refer to are often denominated *physical herbs* or *sweet herbs*, and instead of being collected into one bed or clump, are often scattered over the garden, and left to grow in rather a neglected state, whereas if a little attention was bestowed upon them, they might be made to contribute to the beauty and usefulness of the flower-garden or shrubbery.

The Rosemary.—Its name is derived from *ros*, "dew," and *marinus*, "of the sea;" and signifies Sea-dew. It flourishes best where it has a sea-air. It may be also introduced for its fragrant aromatic smell, and it is easily propagated by planting cuttings in the spring. There are several varieties of it, such as the Broad-leaved, Silver-leaved, Gold-leaved, &c. Sprigs of Rosemary were, at a former period, given to those who attended funerals, for the purpose of throwing them into the grave. Gay refers to the custom in his "Shepherd's Week," when one says:

"What flower is that which royal honour craves,
Adjoin the virgin, and 'tis strewn on graves."
"To show their love, the neighbours far and near
Follow'd, with wistful look, the damsel's bier.
Sprigg'd rosemary the lads and lasses bore,
While dismally the parson walk'd before.
Upon her grave the rosemary they threw,
The daisy, butter-flower, and endive blue."

It was also planted near tombs, like Mallow and the Asphodel. Mr. T. Moore alludes to its character as a mourner, in the following passage:

"The humble rosemary,
Whose sweets so thanklessly are shed,
To scent the desert and the dead."

In many parts of England it is still customary, among the peasantry, to place it in the coffins of the dead. To this practice H. Kirke White refers, in one of his early effusions:

"Sweet-scented flower, who art wont to bloom
  On January's frost severe,
  And o'er the wintry desert drear
To waft the waste perfume;
  Come press my lips, and lie with me,
  Beneath the lowly elder tree,
And we will sleep a pleasant sleep;
  And not a care shall dare intrude,
  To break the marble solitude,
So peaceful and so deep."

Shakspere and others of our old poets repeatedly speak of Rosemary as an emblem of remembrance; and as having been worn at weddings, to signify the fidelity of the lovers. Thus Ophelia says:

"There's rosemary for you, that's for remembrance;
Pray you, love remember."

The following passage occurs in Drayton's "Pastorals:"

"He from his lass him lavender hath sent,
  Showing her love, and doth requital crave;
Him rosemary his sweetheart, whose intent
  Is that he her should in remembrance have."

The Rosemary was a favourite with Spenser, which he generally included where he mentions a variety of flowers or herbs. He mentions it as affording food to his butterfly, little Clarion, "Cold lettuce and refreshing rosemarine;" and as decking the tomb of the great:

"And round about he taught sweet flowers to grow:
  The rose, engrained in pure scarlet dye;
The lily fresh, and violet below;
  The marigold, and cheerful rosemary."

It has been held in high esteem as a "comforter of the brain," and a strengthener of the memory; and on the latter account is an emblem of fidelity in lovers. Formerly this plant never failed to form part of the bridal wreath, whether of a cottage maiden or of a queen. Sprigs of Rosemary mingled in the coronal which bound the tresses of Anne of Cleves, when she became the bride of King Henry VIII.

The plants are easily formed to suit a bed, and have them as dwarf as desired; by stopping the leading shoots, they may be kept well clothed at from half a yard and upwards. Cut back a half or two-thirds of each last year's shoots, about the middle of March; and when the new side-shoots push, if too vigorous, pinch off the end of such during summer. A bush of Rosemary in a shrubbery, duly formed and supported, is very neat, and especially handsome when in full bloom; its long spikes of light blue flowers have a cheerful appearance. Dwarf plants in a bed, in warm situations, bloom profusely. It blooms admirably, too, in winter, when trained against a south aspected wall.

Sweet Lavender may also be added to the collection. It is a hardy plant, and has been grown in this country for nearly 300 years. The fragrant smell of the flower is well known, and to most persons very agreeable. To the taste it is bitterish, warm, and somewhat pungent. The leaves are weaker and less graceful. The flowers are often employed as a perfume; and medicinally, as mild stimulants in several complaints, both internally and externally. They are also sometimes used in the form of a conserve:

"Sweet lavender, I love thy flower
  Of meek and modest blue,
Which meets the morn and evening hour,
The storm, the sunshine, and the shower,
  And changeth not its hue.
But thou, an emblem of the friend
  Who, whatsoe'er our lot,
The balm of faithful love will lend,
And true and constant to the end,
  May die, but alters not."

And as a border for the bed, it will not do to lack the various species and varieties of Thyme. Even the *Wild Thyme* may be introduced, and the hairy, the woolly, and the common garden; also the lemon-scented, gold and silver-edged, and others that might be named. We are informed that the culinary use of Thyme is principally for broths and ragouts. It is also a common ingredient in stuffing to savour meats, and make them more relishing. The Lemon Thyme is less pungent than the common garden Thyme, but much more grateful; hence it is used as a seasoning for veal and other meats where lemon-peel would be used; thus answering the purpose of two distinct spices. Thyme is also an excellent plant for the honey-bee, and many will be ready to say,

> "Come honey-bee, with thy busy hum,
> To the fragrant tufts of the wild thyme, come."

Besides its agreeable aromatic smell and warm pungent taste, its medicinal qualities are said to be *tonic* and *stomachic*. It was formerly extolled as a nervous-simple, and was much used in an infusion for reviving the spirits and relieving headache.

By growing such plants in a proper way, and knowing how to use them, such evergreens may become more valued and better known, not only to those who are supreme in the kitchen, but to those who love

> "Blossoms that lowly bend,
> Shutting their leaves from evening's chilly dew,
> While their rich odours heavily ascend,
> The flitting winds to woo."

(*To be continued*)

REMARKS ON BRITISH ORCHIDS, ETC.

BY MR. PETER MACKENZIE, WEST PLEAN, NORTH BRITAIN.

A labouring man, who was very fond of flowers, and had a pretty long flower-bed in his garden, found in the moors, in boggy ground, some very fine species of Orchis. He stood and admired them for a time in silence, and then said to the flowers, "Ye are too beautiful to live in a bog; I will take you home to my garden, and give you a place in my flower-plot, and many will see and admire you; but how will I manage to save you?" He did not pull them in haste, but took out his pocket-knife and cut away the grass that was growing about the flowers he had fixed on, and then cut into the earth and lifted the plants in full flower, with a portion of the soil in which the root grew. They were planted among other flowers and grew well; and although they opened their beauties in a bog, they closed their flowering season in a garden, and the translation did not appear to injure them at all.

The cottager may have his *Orchids* as well as others who have better means for cultivating this singular order of plants. The man of wealth may have his beautiful epiphytes, the cottager the herbaceous species, and the various species of the native Orchis, such as the Meadow Orchis, the Early Spotted Orchis, the Marsh Orchis, and the Orchis maculata, arranged with the fragrant *Gymnadenia*, the green Habenaria, the *Listera ovata*, or common Twayblade, the *Epipactis latifolia*, or broad-leaved Helleborine, and others of a similar nature; these would form a very interesting collection of native plants, with little trouble to grow them, and a small space of ground would hold them.

Salop, we are informed, is prepared from the root of the *Orchis mascula*. It consists principally of a modification of gum, much resembling *tragacanth*, with a small quantity of starch. It is, too, sometimes used as an article of food.

Many useful and ornamental plants may be grown in a poor man's garden, from which he may derive both profit and pleasure, so that we may say or sing,

The cottage garden, most for use design'd,
Is not of beauty destitute. The vine
Mantles the little casement, and the briar
Drops fragrant dew among the July flowers;
And pansies, rayed and freck'd with mottled pinks,
Grow among balm, and rosemary, and rue.
There honeysuckles flaunt, and roses blow
Almost uncultured; some, with dark green leaves,
Contrast their flowers of pure, unsullied white;
Others, like velvet robes of regal state,
Of richest crimson; while the thorny moss,
Enshrined and cradled, the most lovely wear
The hues of youthful beauty's glowing cheek.

GAS-LIME VALUABLE IN THE CONSTRUCTION OF WALKS.

BY THOMAS RUTGER, ESQ.

I can corroborate the statement of your correspondent, G. B. M., which appears at page 205 of the present volume of the *Cabinet*, in reference to the value of gas-lime for preventing weeds from growing on gravel walks. A gardener, who is under my superintendence, had heard something about it, and was determined to try it, first on a small scale. His caution arose out of his doubts as to how it might act in wet weather, and also after frost. Having *proved that* he had nothing to fear from either, he proceeded by slightly breaking up the surface-gravel, and mixing in with it the gas-lime in a sufficient quantity as he thought would answer the purpose, and then to level and rake the walk neatly, and pass the roller over it, which was repeated a few times after a shower.

If any of your correspondents will turn to page 184 of the present volume of the *Cabinet*, the broad walk which appeared in the design there given had the gas-lime mixed with the gravel a year ago, since which there has been no appearance of weeds. Encouraged by the above result, all the remaining walks which appear in the design above alluded to, are now just finished off in the same way. The mode the gardener has adopted in the present case is, to break up the surface-gravel about two or three inches deep, and to remove the rougher parts of it, which gives room for the gas-lime, and which is mixed with the fine gravel in the proportion of one-third at least of gas-lime to two-thirds of gravel.

Wherever gas-lime can be had conveniently, I am fully persuaded that it will answer the purpose of preventing the growth of weeds; and as to the firmness and appearance of the walks above, "I may say renovated,"—they are all that can be desired. However, it must be understood, that in the present case the material for the walks consists principally of granite chippings, "and for surfacing" the chippings are screened; so that when the walks are neatly finished off a stone, scarcely as large as a pea, can be seen, while the surface is nearly equal in smoothness to a lime-ash floor.

Whether or not a similar process with other kinds of ground will answer, so as to meet all kinds of weather without being injured, I will not venture to assert; but as to the destruction and prevention of weeds, I have no hesitation in giving my opinion as to its being effectual.

There is a kind of gravel, if it may properly be so called, named *shingle,* which has no adhesive qualities, but which is occasionally used for walks, where nothing better can be had. I shall be glad to hear the result of its being mixed with the gas-lime as a trial, to see, when incorporated, if they will bind, so as to make a compact surface.

THE STUDY OF NATIVE PLANTS.

BY MR. PETER MACKENZIE, WEST PLEAN, NORTH BRITAIN.

The study of native plants has been often a source of delight to many inhabitants of this world; and a pity it is that such enjoyments should be confined to so few of the human family. A writer asks the question, "Whither will the pursuit of wild flowers lead us?" It is there answered, "Truly beyond the smoke and din of large capitals, and even the hum of distant villages." Wild flowers seem to love solitude and shade, and oftentimes tempt us into obscure and almost inaccessible spots. Nevertheless they spring up everywhere. They may be seen enamelling the green sward which surrounds the aristocratic mansion, but they shine not less sweetly under the little hedge-row which bounds the garden of the lowly husbandman. Let us love and cherish them, not only for the sake of their own sweet fragrance and simple beauty, but because they are suggestive of thoughts and feelings which lead us onwards and upwards, and wind associations round our hearts which, from the cradle to the grave, endear us to one another and to Nature herself, and impress upon us the solemn conviction that "all that we behold is full of blessings."

COMPOST BEST SUITED TO SUCCULENTS.

BY AN EXTENSIVE CULTIVATOR, NEAR LONDON.

By this title may be undertood an immense tribe of plants formerly considered tenants of the dry-stove, but now found to be more hardy than the Geranium. But it is proposed to restrict this inquiry to the *Cacteæ,* as sufficiently comprehensive for the present purpose.

There are many persons now living who may remember the time when our greenhouses or stoves could exhibit few specimens of the Cacteæ, except the common creeping Cereus, the Melon and Torch Thistles, and the Indian Fig.

Now, however, the case is widely different; for such has been the success of collectors, and so great is the facility with which the genera are propagated, and varied by cross impregnation, that it would be vain to attempt a catalogue. I have a descriptive list of one hundred and forty-seven species and varieties.

Having then so much choice among a selection of surpassing beauty, it becomes an object of consequence to determine, pretty accurately, the soil that will generally succeed with all the varieties: but herein, as almost always happens, cultivators are at variance; yet, as we do not pretend to dictate, and ever desire to "let well alone," we shall be content to allude to what we have seen and heard.

Formerly it was the custom to make pretty free use of old mortar scraped from bricks or walls, incorporated with loam; then it was roundly asserted that good, soft, or *sandy loam*, mixed up with fragments of broken bricks, formed the most healthy bed for the roots. Other writers, and practical gardeners, got rid altogether of lime rubbish, and retained but little loam; they advised, and many now use, the best or richest "peat," as heat-mould is called, with rotten manure, and give water freely, in the growing season, with liquid manure.

Be the soil what it may, certain it is, that it should be pressed firmly around the roots with the hands, till the ball be solid and compact; and little or no water ought to be given between October and April, during which period frost of two or three degrees will little affect the plants; good drainage is also premised.

But I am sure that the herbage of Cacti (if so it may be called) is greatly affected by the soil. In some collections one observes the tint of almost every plant to be a dull, brownish-green, and the texture flaccid; in others, it is of a full deep verdure, with every appearance of vigorous health. Conversing on this subject with another very successful grower, one who had pre-eminently beautiful specimens of *Epiphyllum truncatum* grafted upon *Pereskia aculeata*, I was told that "loam spoiled all the Cacti, and turned the plants brown." My own experience for years tended to confirm this observation, but time has not been given to confirm the truth of another remark, which I must communicate that cultivators may experimentize for themselves. My friend said, "take equal quantities of very old black manure, and of the strongest lime rubbish from old walls, the older the better; mix them thoroughly, and add about one-sixth of unctuous loam. In this compost your plants will recover colour, be always green, and bloom abundantly." At all events his plants make good his words; and I shall attain my present object if this paper excite the notice of observant and candid horticulturists.

MANAGEMENT OF MIMOSAS AND GREENHOUSE ACACIAS.

BY A PRACTITIONER AT KEW.

The volumes of the *Floricultural Cabinet* contain numerous valuable articles on the treatment of various flowering plants, but it appears to me that those individuals who have favoured us with the excellent remarks on each kind, have generally directed their attention to such plants as required a lengthy article upon them. For such I am sure the readers of the *Cabinet* are much indebted; but there are many, very many, beautiful flowering plants which have not been noticed. They highly merit it; and though no lengthy remarks are necessary, I think it would be equally acceptable if a few short observations upon them, as to the particulars of the plant, its culture, so as to keep it healthy, and bloom profusely, &c., were given. I believe many of the readers of the *Cabinet* have hesitated to communicate useful information, merely because the observations they had to make upon a plant, or plants, being few, they would not, therefore, be interesting or useful; but I am sure the more simple the means, the more condensed the remarks, the more acceptable to us. I hope, therefore, those readers who have practical knowledge of any beautiful flowering plant, hardy or tender, will favour us with information. To commence with, I herewith send a few remarks upon two genera of plants of which no notice has been taken in the *Cabinet;* they are the greenhouse Mimosas and Acacias. I have included the two, because many of the kinds formerly Acacias have been transferred to the Mimosas, and others of the Mimosas to the Acacias; and considerable confusion prevails through the country as to their identity. But whether they are now designated Acacia, Mimosa, or Inga, &c., there is a natural identity in the class of plants, and I refer to them as a whole. The plants are profuse bloomers, *very showy*, most of the kinds produce yellow flowers, some white and others pink: many of them are very fragrant, as the well-known Mimosa paradoxa (or Acacia armata). They generally produce their lovely blossoms during the early spring months, hailing the return of that delightful season with presenting an array of beauty, and affording a delightful gale of perfume. The greater portion of this ornamental tribe of plants are from New Holland. They are generally very free growers, and of easy culture. I find them to grow vigorously in equal parts of good rich loam and peat, having a quantity of silver-sand and bits of charcoal mixed therewith. I use a good portion of drainage in the pots, and give the plants plenty of pot-room. This latter attention is necessary as the plants root so very rapidly. In a soil as above described, and giving a good drainage, a very free supply of water is required: I always take care to let the soil be dry before I give a fresh supply of water. I shift the plants into larger pots immediately they have done blooming; they then push freely those young shoots which are the blooming ones *for next season.*

I would add a list of kinds here, but I think it unnecessary to do so, as each kind is graceful in form and beautiful in flower, and merit a place in every greenhouse or conservatory; and most of the handsomest have been described by the Editor in the very useful Monthly lists of New or Rare Plants, given in each Number of this Magazine.

All the kinds strike root freely from cuttings of the *young shoots*, when about half hardened. I strike them in sandy loam, the *greater portion* being sand, and place them where they get a little bottom heat. Those kinds which I find do not root readily from cuttings, I have struck from portions of the roots, inserting them, &c., as done to shoots, leaving out the top part of each about an inch, and I have never failed to raise plants of any of the sorts by this method. I always cut the lower portion of the root in a transverse direction close under an eye. If this plan of striking was adopted with most kinds of greenhouse plants, it would be found to succeed better than by taking shoots: the roots not being liable to damp off as the shoots often do.

I shall continue to send a few remarks upon plants for each successive Number of the *Cabinet*, if it meet the approval of the conductor.—[We shall be obliged by them.—Ed.]

VERBENAS, THEIR CULTURE, WITH A LIST OF THE BEST IN CULTIVATION.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

My article on Verbenas last year I hope was the means of assisting many of the readers of the *Cabinet* in making a selection of the best then in cultivation; and it is with pleasure I now give a list of the best of this season's novelties, as well as a hint on their culture in pots, and in the open ground.

This present season's varieties contain some very striking novelties, and in this charming class of plants we have an addition in colours as well as improvements on colours already well known. The habit too of some of the varieties are very compact and free flowering, rendering them excellent for pot culture, as well as for bedding out. In the improvements I have mentioned the varieties that claim the superiority are those that have been raised by nurseymen and growers on the Continent; in fact, for some few years past they have "borne the *palm*" for producing the greatest novelties in colour and habit. Our growers at home certainly produce flowers of fine form, both as regards the corolla and truss, while the habits of the same has nearly condemned many of them as worthless for *bedding* purposes. In my present list, given below, I shall mention those only that are decided novelties and improvements on all varieties already out. Those marked thus (*) are excellent varieties for pot culture. The best way of growing them to make fine showy specimens is as follows:

In January place the old plants in the propagating-house, which should be kept at a temperature from 55° to 70°, but never under 50°. When they have made their young wood, or *cuttings*, they should then be taken off and put in a striking-pan or pot, filled to about one inch from the surface with rough draining material, placing on the top of that half an inch of leaf-mould, half rotted, finishing with silver sand to the surface of the pot. Before putting in the cuttings, a slight watering of the sand with a fine rose-pot will be necessary to settle the whole; then prepare the cuttings in the usual manner and push them in the wet sand. They should be then placed in the warmest corner of the house, or if they could be plunged in a little bottom heat the better, and the sooner they will root off. As soon as the cuttings are well rooted they should be potted into 60-sized pots, and placed in gentle heat for a few days until they are established; then stop the lead, and place them in a cooler place to break afresh, and as they advance in their growth gradually harden them off, for if left in heat they break with very weak shoots. As soon as the plants advance in their growth and the pots get full of roots, they should be shifted into 48-sized pots, and again, as they grow, into 32, 24, &c. During the growth of the plants all shoots must be stopped, in order to encourage them to grow bushy; and never allow them to bloom until they have properly formed themselves,—and have as many leading shoots as are wanted; but, as I before remarked, those recommended for growing in pots, of the Continental varieties, will scarcely require any stopping after they are shifted out of 60-sized pots.

The soil I recommended for their first potting from the cutting-pots is, an equal portion of leaf-mould, silver sand, and mellow loam, altering it as the plants require larger pots, to equal parts of turfy loam, leaf mould, and peat, with sand added to keep it free. In the different stages of potting use pots thoroughly clean and well drained, with a little of the rough soil over the drainage to keep it free from being choked, which constant watering would be apt to cause it to do.

Let the plants be watered when growing with *weak* liquid manure, twice or thrice a week, to help them on. They will also be benefited with frequent syringing over the foliage to keep them clean, as well as to promote the health and growth. When in flower, and as the flowers fade off, the old truss should be cut off, as they only weaken the plants by being left on, and likewise give the plants an untidy appearance. By attending to this the plants will break afresh, and continue blooming all the season.

Very little need be said about their management when required for bedding; suffice to say, their management is the same in striking, potting into 60-sized pots, which will be quite large enough for them until the time arrives for planting out. Attention in shortening the shoots to make them bushy will be necessary. If the green fly attack them, they may be easily subdued by smoking them with tobacco. If the mildew should touch them, it may be eradicated by dusting the parts affected with sulphur.

Annexed is a list of twenty-four of the best kinds now in cultivation, both in colour and habit.

* *Azurine*, beautiful lavender-blue, compact habit, good truss, quite a distinct colour.

* *Ariadne*, purplish rose, with a beautiful white eye, good habit, distinct colour.

Bouquet parfait, beautiful deep-rose, with a rich crimson centre, free bloomer, extra good truss and habit.

* *Emma Baurnaux*, mottled lavender, with a crimson eye, novel colour, good habit.

* *Gangymede*, rich crimson, with a light eye, a good truss, and excellent habit.

General St. Arnold, rich crimson-scarlet, with a distinct white eye, fine-formed flower, but a rather small truss and indifferent habit, *distinct colour*.

Marie Louise, beautiful deep salmon, with a light eye, good formed truss, and good habit.

* *Madame Ivery*, rich damson-plum, with a light eye, good truss and habit, quite a new colour.

* *Madame Thorel*, a splendid form flower, colour a crimson, violet, shaded, with a fine light eye, very compact grower, *quite a novelty in Verbena.*

* *Madame A. Pommery*, fine rosy-pink, with a crimson centre, habit and truss first rate.

* *Madame de la Valliere*, French white, with a distinct dark centre, good truss, and extra good habit.

* *Madame de Stael*, bright cerise, with a yellow eye, fine truss, and very free bloomer, quite a novelty.

* *Madame Doumet*, damson purple, with a light eye, moderate truss and habit.

Manteau de Fiance, white, with a deep violet centre, good habit and truss.

Madame Gonnet, light rosy-pink, with a deep rose centre, good habit, and a large well-formed truss.

Madame Rougier, delicate blush, with light rose centre, and cream-coloured eye, fine formed truss, habit good.

Madame Modeste, crimson-carmine, fine, large, well-formed truss, good habit and free bloomer.

Mr. Reuvier, fine orange scarlet, free bloomer and fine truss, quite a new colour for bedding.

* *Ondine*, delicate cream, tinged with rose, a first-rate habit and truss.

* *Pompey*, good clear blue, fine for bedding, the best useful blue out.

* *Rendalterii*, intense velvety-crimson, shaded with a still deeper colour around the eye, free bloomer and good truss.

* *Souvenier d'Evry*, violet, with a fine large white eye, good bloomer, and free habit, a first-rate flower.

* *Vicomtesse de Bellival*, violet-purple, with a large clear white eye, good-formed flower and habit, quite a novelty in Verbena.

Vicomte de Barray, beautiful salmon-rose, with a crimson eye, large well-formed truss, and good habit.

Vulcan, beautiful plum and crimson shaded, having the appearance of a *shot-coloured silk, free bloomer.*

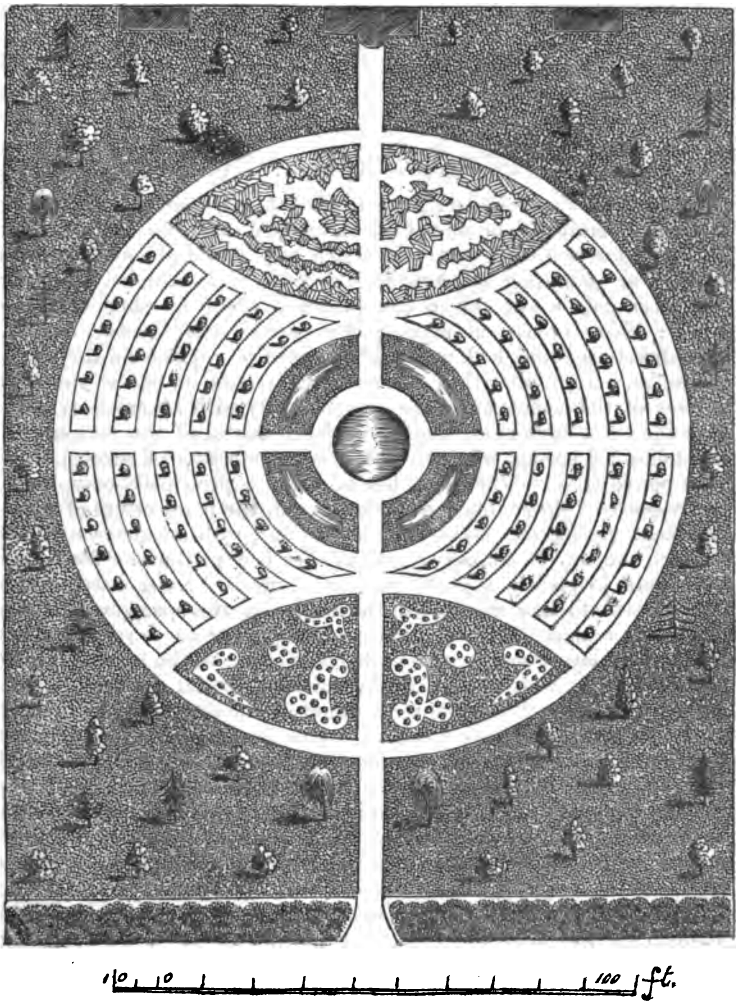
The above varieties may be purchased at a trifling cost, and now is the best time to do so. Young plants purchased at this season will come in for cuttings in the spring, and by stopping them now, shifting into a little larger pot, placing them in a cool frame, they will form nice plants, well adapted for working cuttings from at the time above stated.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 11.

The design in connection with this article is intended to represent a small botanical arrangement.

By approaching it through a thick shrubbery you enter a lawn, and passing on through a small flower-garden, the beds in which are on



grass, a round basin is approached, and in each of the four divisions surrounding it is an aquarium; proceeding onwards, a mass of rock-work for rock plants is entered, and at the extremity of the ground stands a summer-house, on each side of which a small propagating-house is shown. The circular compartments may be either appropriated for an arrangement of choice herbaceous plants, or a part of them for a rosarium or dahlia-ground, or for a collection of choice hollyhocks, or in any other way as taste or fancy may dictate. The lawn surrounding the circle may be dotted by a selection of the most choice trees, so as to be considered as an arboretum on a small scale;

and should there be room for a shrubbery to surround the whole, a gravel walk might be carried round. Sites for garden-seats, and various structures, might also be fixed upon, both for ornament and convenience.

MISCELLANEOUS SECTION.

CULTURE OF THE GIANT LILY (*Lilium giganteum*).—In the spring of 1850, I received from one of the Edinburgh nurseries two plants of *Lilium giganteum*, which were in 4-inch pots, and had anything but a healthy or promising appearance. They were immediately repotted into clean pots a size larger, and placed in the front shelf of a cool house; where, instead of making new growth, they hastily matured what few leaves they had, and made little or no progress in the size of the bulbs. They were then removed, and placed on one of the back shelves of the house, and were supplied only with as much water as kept the bulbs from shrivelling through the course of the season. In the following spring, when they showed symptoms of growth, they were placed on a shelf over the flue of a house principally occupied by newly-potted Pelargoniums for bedding out, the temperature of which was kept during the night from 45° to 50°, with an increase of 10° through the day of sun heat. When they had produced a few leaves, they were frequently supplied with clear weak manure-water, which they seemed to like much. In the course of the spring, one of the plants was removed to the upper front shelf of the house; but was not there many days when the fine dark green colour of the leaves began to change to a brownish-green, which indicated it did not like its new position, and that the leaves were injured by the direct rays of the sun. It was then removed back to where it had formerly been, on the lower shelf, where it was partially shaded from the sun by the upper shelf. Here they were allowed carefully to mature their foliage: this is one of the chief points to be attended to in the cultivation of bulbous plants. In the following autumn they were repotted into 7-inch pots, and kept during the winter between dry and wet, and in spring received the same treatment as they did the previous spring, by which they grew fine, strong, healthy plants. They were again in autumn repotted into 12-inch pots, to allow the roots to get well established before spring, and kept in the same state as they were before, during the winter season. This year they commenced to grow vigorously about the middle of March, when one of the plants soon afterwards showed its flower-stalk (the smallest of the two plants); and as soon as they were in active growth, they were supplied three times a week with manure-water much stronger than before, as they were now much more vigorous, some of the leaves measuring 11 and 12 inches across. By the early part of June, the flower-stalk had reached 6½ feet high, and then produced a number of its beautiful large white flowers, which filled the house with their sweet fragrance; and it now looks as if it would produce a good crop of seed. The soil used was equal parts of leaf-mould, cow-dung, and turfy soil, all well pulverized, and in a very decayed state, with as much fine river-sand as made it light and porous. Should this fine Lily prove to be hardy—which I think, from its being so easily excited, there cannot be much doubt of—it will enhance its value very much, as it will be very ornamental in the case of those requiring an early display of flowers. A shaded place will be found the most suitable situation to grow it in, as its leaves are impatient of being fully exposed to the sun.—*R. Macdonald, in "Scottish Florist."*

Raising Seedling Calceolarias.—The cultivation of the Calceolaria from seed requires a little extra care in the early stage of its culture; to ensure success in the raising of seedlings, it is requisite to attend to the following directions as nearly as possible:—The seed should be sown in pots, prepared in the following manner; the pot to be half-filled with drainage; over that rough siftings of the mould, and the surface covered with soil as fine as possible; half of this should be composed of silver-sand: when prepared thus it should be watered with a fine rose, immediately after which sow the seed carefully without any covering of soil; the pots should then be placed in a close frame or a hand-glass in a shady part of the garden (no artificial heat is required); in large establishments, of course, they may have propagating or other houses that will do, where the same kind of moist temperature would be obtained; any sun-light must be carefully guarded against by mats or paper; if the situation is of the proper temperature it will require watering very seldom: directly the seedlings are strong enough, they must be pricked off in pots prepared as before, and placed in the same situation: from the store-pots they will require to be potted off singly; after this the plants will grow very rapidly. Through the winter the plants will thrive well on the shelves near the glass in the greenhouses; to obtain fine specimens, they must be shifted on freely till the flower-stalks have started, and always to be smoked with tobacco directly the green-fly appears.—*Recommended by Messrs. E. Henderson and Son, of Wellington Nursery.*

[These remarks will apply also for the cultivation of the Cineraria, except that the plant is more hardy and will thrive with less care.]

To Propagate Tall-flowering Lobelias.—The best time to put in cuttings is in autumn. This should be done as early as possible, to give time to have them well rooted before winter. There are generally plenty of shoots to be had from the bottom of the stem; but if the kind is scarce, the flower-stem may be cut into pieces; every joint will grow, if there is a leaf attached to it. The cuttings should be allowed to lie for a short time, to dry up the milky juice; in this way they will not be so apt to damp. The pot should be well drained, and filled to about an inch of the surface with light rich compost. Fill up the remainder with sharp sand, press it level, and give a gentle watering. Plant the cuttings round the edge of the pots, give a slight watering to settle the soil, and let them stand a short time to dry; then plunge the pots in a gentle bottom heat, when the cuttings will soon take root.—*W. G., "Scottish Florist."*

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

HOLLYHOCKS.—*Now* make new plantations of these noble flowers. Auriculas and Polyanthuses, Carnations, Pinks, &c., should be placed in their winter quarters, in a dry, sunny, sheltered spot, where a free circulation of air can be admitted on all proper occasions. Any plants out in the open beds, as Lobelias, &c., should be taken up and potted, for winter preservation, in pits, frames, &c. Chrysanthemums grown in the open ground, and required for blooming in-doors, should be taken up as entire as possible, and be potted with due care. All tender kinds of plants, as Scarlet Geraniums, Verbenas, in fact every kind requiring winter protection, should be housed *immediately;* it is bad policy to put it off a single day longer. All plants like light; place them as near to the glass as convenience will allow. Prepare the Tulip-bed.

Dahlias.—Let the *crown* of the roots be covered with a few inches deep of soil around the stems. Beds of Pansies be made. Shrubs of all kinds may be planted. Roses now planted SOON PUSH NEW ROOTS, and become well-established before winter; the soil being somewhat warm, excites the roots immediately. Pinks, also, may be planted in beds.

Shrubs, &c., forcing for Winter Bloom.—Such as are to bloom early should be gradually prepared, potted immediately, if required, and by the middle of the month introduce such as are desired to bloom by Christmas, into the house or pit. The kinds which are well-deserving such attention are Roses, Honeysuckles, Jasmines, Poinsettias, Azaleas, Kalmias, Persian Lilacs, Andromedas, Tree Carnations, Pinks (of which Anne Boleyne is the best), Rhododendrons, Rhodoras, Deutzias, Ribes, Spirea Prunifolias, Mezereums, Gardenias, Cupheas, Heliotropes (the new blue is fine), Scarlet Pelargoniums, Cactuses, Eranthemums, Justicias, Salvias, Gesnerias, Corræas, Chinese Primroses, Aconites, Mignonette, Primroses, Cinerarias, Stocks, Persian Iris, Crocuses, Cyclamens, Sweet Violets, Hyacinths, Lilies of the Valley, &c. Seeds of many annuals should now be sown in the border, and others in pots; such will bloom early next spring. Brachycoma, Schizanthus Retusus and Hookerii, Rhodanthe and Salpiglossis, seeds now sown in pots, plants potted off when strong enough, will bloom vigorously next spring.

IN THE GREENHOUSE, &c.

If the stock is not housed, it ought to be done immediately. Care must be taken so that one plant may receive something like its proper treatment without interfering materially with the well-being of its neighbours; and the tender ones must be placed in the best part, for protection from cold wind, &c., Pimeleas, Leschenaultias, Aphelexis, Boroneas, Gompholobiums, and Diosmas, are injured by being placed where there is a *current* of wind. Let each plant have all the space possible, and the robust large-leaved kinds, and the very slender delicate sorts should be kept as separate as can be arranged, so as to allow a due circulation of air. Be careful that the pots, &c., be perfectly clean before arranged for their winter situation. Repot Cinerarias, &c. Let Camellias which are to bloom early be placed in a warmer situation, also any Chinese or Indian Azaleas, so that they may be gradually advancing. In watering the stock of plants, let it be done in the *early part* of the day, so that any excess may be dried up before evening, and damps be avoided, otherwise mouldiness will ensue. Thin away the flower-buds of Chrysanthemums; water occasionally with liquid manure. Calceolarias, pot off seedlings to bloom next season.

PELARGONIUMS.—The plants headed down some weeks back, have now pushed shoots an inch or two long; these should be thinned properly. The plants must be repotted, in order to have the roots well established before winter. Shake off the soil, and shorten some of the long roots, so that young fibres be promoted, which is essential to the vigour of next bloom. Have a free drainage in the pots. Compost, turfy-loam well chopped up, with an equal portion of sandy-peat and well-rotted leaf-mould, and half the quantity of well-rotted dung. Give air to the plants in the daytime, and be careful not to give over much water at the roots, for if saturated they will be injured. Young struck plants should have the tops pinched off, to cause the production of side-shoots, to render them bushy for next season. Repot some of the SCARLET GERANIUMS (so called) to bloom during the autumn and winter; they are charming ornaments. So with *the new Tree Carnations*, of which there now are many very beautiful distinct varieties, deserving a place in every greenhouse and sitting-room.

BRIEF REMARKS.

EXHIBITION OF PLANTS, &C., AT CHISWICK, &C., DURING 1853.—Our readers are aware that none but plants, &c., of first-rate excellence are brought forward for competition on these occasions, and that a selection of the very best being inserted here may enable those of our readers who are desirous of possessing such things to make their choice, we have taken lists of the best in the various classes.

EXHIBITION ON JUNE 11TH.—COLLECTIONS OF TWENTY STOVE OR GREENHOUSE PLANTS.—1st Prize. Mr. May, gardener to Mrs. Lawrence, of Ealing-park, for the following plants:

Aphelexis purpurea grandiflora.
Adenandra fragrans.
Allumanda cathartica.
Azalea Minerva.
Coleonema rubra.
Clerodendron fallax.
Dipladenia crassinoda.
Dracophyllum gracile.
Erica Cavendishii.
Gompholobium polymorphum.
Gompholobium splendens.
Ixora coccinea.
Leschenaultia biloba major.
——— formosa.
Pimelea spectabilis.
——— Hendersoni.
——— mirabilis.
Polygala acuminata.
Rondeletia speciosa.
Vinca rosea.

All these were of extraordinary size in formation and growth, specimens of perfection, and in most profuse bloom. In fact, they stand unequalled.

2nd Prize. Mr. Green, gardener to Sir E. Antrobus:

Aphelexis macrantha.
——————— purpurea.
Allamanda neriifolia.
Acrophyllum venosum.
Azalea variegata.
—— præstantissima.
—— coronata.
Dillwynia ericafolia.
Dracophyllum gracile.
Erica Clowesiana.
Erica Cavendishii.
Hoya bella.
Ixora coccinea.
—— crocata.
Leschenaultia Baxterii.
——————— formosa.
Polygala cordifolia.
———— Dalmaisiana.
———— oppositifolia.
Tetratheca verticillata.

Twelve Pelargoniums.—1st Prize, Mr. Turner. Enchantress, Magnet, Mochanna, Narcissus, Virgin Queen, Magnificent, Rowena, Rosamond, Gannymede, Constance, Centurion, and Alonza.

2nd, Mr. Dobson. Star, Purpurea, Harriet, Incomparable, Governor, Loveliness, Chloe, Vanguard, Gertrude, Emily, Empress, and Commander.

Amateurs.—1st Prize, Mr. Holder. Star, Lord Gough, Gulielma, Forget Me Not, Beauty of Montpelier, Village Maid, Constance, Narcissus, Alderman, Norah, Maid of Perth, Centurion, and Magnificent.

2nd Prize, Mr. Carrigan; 3rd Prize, Mr. Robinson. Each had some of the varieties as the above collections, and the following additional kinds were shown in their collections; viz., Ajax, Prince of Orange, Painter improved, Ganymede, Little Nell, Princess Royal, Conspicuum, Rowena, Pearl, Flying Dutchman, and Exactum. There were also shown Cynthia, Corinne, Optimum, Astræ, Beatrice, Dobsoni.

Pelargoniums exhibited on July 9th:—Private growers, 1st Prize, Mr. Borham, gardener to Mrs. Maddeford, of Staines Villa. Ajax, Pearl, Alonza, Constance, Mont Blanc, Magnificent, Star, Norah, Rowena, Centurion, Conspicuum, and Rosamond.

2nd Prize, Mr. Robinson. Ariadne, Old Story, Pulchrum, Ophelia, Novelty, Butterfly, Lord Mayor, Rosamond, Mochanna, Constance, Salamander, and Rowena.

Dealers.—Mr. Turner. Optimum, Old Story, Exactum, Monteith, Ajax, Alonza, Plantagenet, Esther, Dobsoni, Rosa, Cristine, and Elise.

2nd Prize, Mr. Dobson. Ganymede, Ajax, Star, Magnificent, Commander, Rosa, Jupiter, Loveliness, Marginatum, Exhibitor, Mont Blanc, and Ambassador.

Fancy Pelargoniums, June 11th.—Dealers, 1st, Mr. Turner. Madame Rosatii, Anais, Delicatum, Caliban, Richard Cobden, and Erubescens. 2nd, Mr. Ambrose, Magnum Bonum, Figaro, Triumphant, Jenny Lind, Defiance, Reine de Français.

Private Growers.—1st, Mr. Smith. Defiance, Alboni, Hero of Surrey, Jenny Lind, Empress, and Advancer.

2nd, Mr. Miller. Odette, Richard Cobden, Modestum, Emma, Triumphant, and Erubescens.

3rd, Mr. Robinson. Fairy Queen, Gipsy Queen, Princess Galitzii, Advancer, Delicatum, and Statiaskii.

Exhibited July 9th.—Dealers, 1st, Mr. Turner. Miranda, Delicatum, Electra, Madame Rosati, Jenny Lind, Richard Cobden.

2nd, Mr. Gaines. Hero of Surrey, Vandyke, Lucy, Advancer, Celestial, and Multiflorum.

3rd, Mr. Ambrose. Defiance, Delicatum, Perfection, Madame Sontag, Erubescens, and Barbette.

Private Growers.—1st, Mr. Robinson. Fairy Queen, Richard Cobden, Celestial, Delicatum, Perfection, and Princess Galitzen.

2nd, Mr. Miller. Orestes, Formossissimum, Queen, Richard Cobden, Caliban, and Princess Galitzen.

(*To be continued in our next.*)

Lapagerea rosea.—A plant, splendidly in bloom, was exhibited at the Horticultural Society's garden on July 11th. Mr. Selkirk, gardener to W. J. Myers, Esq., Porters, near Barnet, who brought it, states, "The plant was grown in the plant-stove, where for the last three years it has never failed to flower beautifully; and when fifteen or sixteen blossoms are in perfection at one time (as we have had it) the effect is very striking. Another, planted in the border of the plant-stove last year, has made a shoot twenty feet long, and is now in flower, trained up the rafter. We find it grow best in pure *leaf-mould*, with plenty of pieces of wood, in a state of decay, mixed with the mould, and the plant kept "well up" in the pot or border.

ON THE FORMATION OF GRAVEL WALKS.—As a country subscriber, I am, with many others of your subscribers, much obliged to G. B. N. for his remarks, in the last month's Number, on the formation of Gravel Walks, and his information relative to Gas-Limes. G. B. N. would further oblige your readers by giving us information as to what *Gas-Lime* exactly is? Is it the refuse of lime after used at gas-works?—or what? Likewise, as to the *thickness* of his coat of Gas-Lime; also of the gravel laid upon that coat?—*A Country Subscriber.*

PLAN FOR A BORDER OF FLOWERS.—In the establishment where I am gardener, there is a flower-border in front of a west-aspected wall (fruit-trees are trained against it) which is one hundred and nineteen yards long. Along the front of the border there is a gravel walk, six feet broad, which is separated from the border by a grass verge, one foot wide. The border at the north end is twelve feet broad, and at the south end five feet, regularly widening along from south to north. Near the middle of the wall there is a walk from the east to the walk in front of the border, which is six feet wide, a gate being placed in the wall. The length of the border from the side of this gate-entrance to the north end is sixty-two yards, and from the same to the south-end is fifty-five yards. At present it is an entire border, filled with greenhouse, hardy herbaceous, and annual plants. My worthy employer, however, requires me to make this border into small beds, each bed to contain only *one sort* of showy flowers. Now I shall be greatly obliged if some reader hereof would give me a sketch of the best form of beds for this space. The space between the beds may be grass or gravel. If the latter, what plants would be best for an edging to the beds? An early attention to the favour solicited will confer a great kindness on—*A Brother Gardener, in Gloucestershire.*

P.S. The sketch may be sent to the Editor, Larkfield-lodge, Richmond, London.

AMERICAN ALOE.—A beautiful specimen of this plant is now bursting into bloom in the Italian garden of the Earl of Mount Edgcumbe, at Plymouth. It is now nearly as high as the orange conservatory, but it is expected to reach about thirty feet when it is at its full growth. The plant is said to be about one hundred years old, and there are about thirty spikes of flowers coming into blossom.

REPAIRING GUTTA PERCHA TUBE.—Let the part where the hole is be heated by holding it before a fire, or in hot water. Take a piece of gutta percha, old piping, shoe sole, or a small bit of new, and let this piece be heated too, then patch up the hole with it. Solder it up, if you like to do so. *A Practitioner.*

TO DESTROY BLACK-BEETLES.—Take a lime-stone, pour a little water thereon, and after it becomes pulverised place the powdered lime within reach of them, and they will soon perish.

TREATMENT OF LESCHENAULTIAS.—I have grown the L. formosa and other species with unparalleled success by pursuing the following particulars:—*Compost.* Light peat soil, in a rough, *fibrous* condition, to which is added one-third of sharp silver-sand, and a good sprinkling of bits of charcoal, and a liberal drainage of crocks. *Potting.* The middle of the ball is as high as the rim of the pot, but it slopes from the stem to the side; so that I have half an inch hollow inside the rim, to retain a due supply of water. I always give as much water at once as will sink through the whole ball of compost, and do not water again till quite dry. To keep it saturated with wet, would soon destroy the plant; thus especial care is paid in watering from the first of November till the middle of March. I keep the plants during winter in a dry and well-ventilated greenhouse, and have them very near the glass. In summer I have them in a pit-frame, allowing them the entire open air, but shade them for about three hours in the middle of the day from the sun; if not thus shaded, the foliage turns brown. I sprinkle them overhead morning and evening, during spring and summer, with soft water. They relish this admirably. They are liable to the attacks of green-fly, at the under side of the leaves; and on the first appearance of one, I put the plant under a close hand-glass, and fumigate powerfully. This attention is repeated three or more times during the growing period of the year. I find, too, dipping the plants overhead in strong tobacco liquid answers equally well. No plants are more beautiful than these when properly grown, and in *profuse bloom.* I keep the plants *bushy* by a constant attention in stopping the leading shoots to induce laterals.—R. EVANS, *Liverpool.*

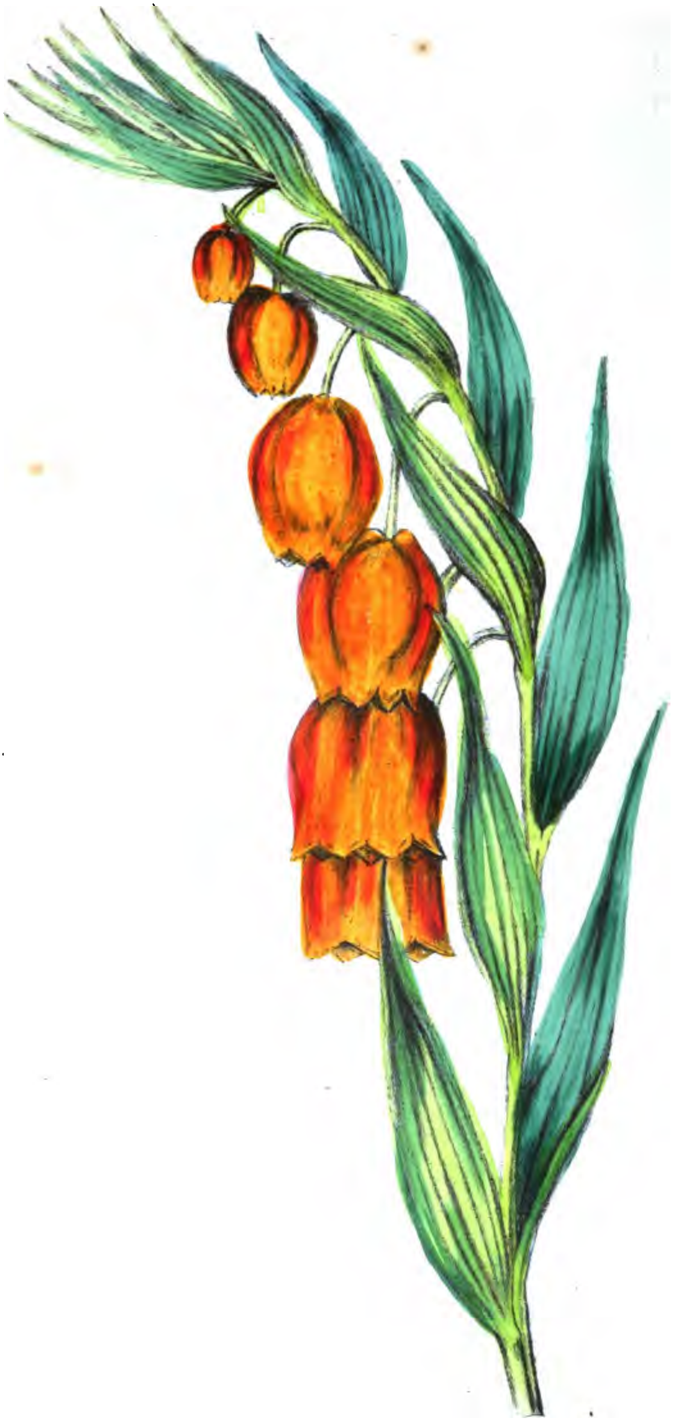
STANDARD ROSE-TREES.—I offer to the lovers of standard roses a little plan of my own. It has succeeded admirably. An artificial prop to standard roses is unsightly, and is both exposed to decay in the run of time, and to disasters from the raging of the wintry blast. In order to do without this prop, plant three standard roses (the longer the stem the better) in an equilateral triangle. If on a slope, one leg must be longer than the other two. They may be from 8 to 14 inches apart. Bring the stems together at the top, and bore a hole through each of them, a little below where they have been budded; then through these holes thread a copper wire, such as is used for soda-water bottles, and bring the heads of the three plants quite close together, making the ends of the wire fast. This is all. You have here a group so firm and strong that it can never break down, or ever require an artificial support. I made four groups last autumn. They are now in fine blow, and are much admired. CHARLES WATERTON, *Walton Hall, near Wakefield*—(*Gardener's Chronicle.*)

BEGONIAS.—The multitudes who admire the beautiful Begonias, which every winter grace the stoves here, surely can have no idea that they are nearly as easily managed as a Pelargonium, or we think they would be oftener met with in collections than they are; such, however, is the fact. After they have done flowering, they are removed from the houses to a station at the bottom of a low north wall, where they are allowed to dry and have a season of rest. When that is over, which is about this time, they are taken in hand, shifted, and placed in a pit, where, after they have started, they are cut back a little, and then grown on to be ready for the stoves in winter. The chief point in their treatment is doubtless the drying and resting in summer; for without these they would never flower so well as they do.—*Memorandum of Horticultural Society's Garden.*

ROSES FROM CUTTINGS.—Propagation by cuttings may be performed with success all through the growing season. As soon as the forced plants have bloomed, the shoots taken off (when pruning for a second bloom) may be cut to a joint with two or three eyes, allowing the leaves to remain on all excepting the bottom eye intended to be inserted in the soil. About six of these cuttings placed round a 4-inch pot, in equal parts of loam, leaf-mould, and sand, will be sufficient. They should be placed firmly in the pots, and afterwards well watered through a fine rose, then plunged where they will have a moderate bottom-heat, and be shaded from the mid-day sun. In a few weeks, when rooted, they may be potted separately into 3-inch pots, and gradually hardened off. The same soil may be used as before, but broken up fine, or sifted, with the addition of a little sand. Cuttings will strike through the summer, and at any period when the young wood can be obtained well ripened. They may be taken as late as September, but must then remain in the cutting-pots during winter, and be potted off early in spring.

TAKING IMPRESSIONS OF LEAVES.—Having seen, a few weeks ago, in your valuable paper, a recipe for taking impressions of leaves, allow me to forward you the following, which may be new to some, and which I have found to answer very well:—Take half a sheet of fine-wove paper, and cover the surface with sweet oil; after it has stood a minute or two, rub off the superficial oil, and hang the paper in the air to dry. When sufficiently dry, move the paper slowly over the flame of a candle or lamp till it is perfectly black. Lay the leaf on it, place a piece of clean paper over it, and rub it equally with the finger for about half a minute. Then take up the leaf, and lay it on the paper or scrap-book where it is desired to have the impression. Cover it with a piece of blotting-paper, and, on repeating the rubbing, the representation of the plant will appear about equal to an engraving. The same piece of black paper will serve for a great number of impressions. A small piece of the Davallia canariense looks beautiful when done in this way.—GUILLAUME.

NEW ANNUALS IN THE HORTICULTURAL SOCIETY'S GARDEN.—Of new Annuals, of which, and of the older kinds, the Society has formed a new collection, the following have flowered, and are really very good; viz., Collinsia multicolor, Silene pendula alba, a profuse flowerer, dwarf, and very handsome; Venidium eximium, with large Marigold-like flowers; a white variety of Nolana grandiflora; Cenia turbinata, a white sort, and C. t. formosa, a yellow kind, which offer fair to be very useful plants, producing, when grown in tufts like Chamomile, a very good effect, and continuing on in blossom until the plants have become so exhausted as to be unable to throw up more. Perilla Nankinensis has not flowered yet; it looks as if it would be worth growing for the colour of its foliage alone, which somewhat resembles that of purple Orach, but darker. The scarlet, or rather brilliant crimson Linum, is certainly a charming flower; but the plants appear to be very delicate, and difficult to manage well. Only one or two have as yet been planted out, and therefore little can be said of its out-door appearance; but its great beauty makes it well worth attention as a pot plant. Tropæolum shuurmanianum, a straw-coloured kind, streaked with red, is pretty, as is also the white Escholtzia, a sort which is very neat.



Sandersonia Aurantiaca.

FLORICULTURAL CABINET

NOVEMBER, 1853.

> " I like a shrubbery too, it looks so fresh,
> And then there's some variety about it.
> In spring the lilac, and the snowball flower,
> And the laburnum, with its golden strings
> Waving in the wind: and when the autumn comes,
> The bright red berries of the mountain ash,
> With pines enough in winter to look green,
> And show that something lives."—SOUTHEY.

ILLUSTRATIONS.

SANDERSONIA AURANTIACA.—THE GOLDEN FLOWERED.

THIS very neat, handsome flowering-plant belongs to the *Lily tribe*, and, as our readers will perceive by the flowers, its affinity is with the *Fritillaria* section. It is a native of South America, and flourishes in the greenhouse, also planted out in the open border in May, in a warm situation, taking them up after blooming, similar to what is done with the Tigridias, &c.

Perhaps all our readers know, as well as admire, the lovely spring-flowering plant, *Fritillaria meleagris,* bearing its beautiful, nodding flowers, chequered with purple and white, or purple and yellow. It is "for this peculiarity" that it has been named *Fritillary,* from *fritillus,* a draught or chess-board. Nevertheless, *fritillus* is not the *board,* but the *dice-box.* Its specific name is from *Meleagris,* "Guinea Fowl," as the flowers of some of the varieties are mottled or spotted like the feathers of the Guinea-fowl, and hence Gerarde named them, in 1587, Turkey-hen or Guinea-hen flowers. It and its varieties are natives of most of the European countries, and are generally found growing in humid meadows. It has many familiar English names, such as Chess-board flower, Turkey-hen flower, Guinea-hen flower, Chequered Daffodil, Lily of the dell, and Snake's-head; from which last name a meadow, where it grew plentifully, between Kew and Mortlake, is called Snake's-head Meadow. Gerarde informs us, "they are greatly esteemed for beautifying our gardens, and the bosoms of the beautiful ladies." Soon after this flower was thus brought into particular notice, the fields of Spain, Portugal, Italy, Sweden, and Germany were successfully searched for varieties, and were sent to ornament the gardens of our ancestors in Great Britain. About seventy years ago it was discovered growing in a wild state in England, near Kew, and in Mawde-fields near Rislop Common.

Parkinson observes, that it was first named *Narcissus Caparonius*, in honour of Noel Capron, an apothecary at Orleans, who first took this plant into garden-protection and ornament, and was shortly after persecuted and murdered in the massacre of St. Bartholomew. Thus it is scarcely possible to see the chequered flowers of the Fritillary, without contemplating that the events of our private lives are not more chequered than those of nations, and in floral language this flower is placed as the emblem of persecution; and we recommend it to have a situation in all gardens, as a *memento*, "that by persecuting of others we lessen our own portion of happiness."

To this very interesting group of flowers the beautiful one we now figure belongs, and ranks as a most valuable acquisition thereto. Who can look into these ever-multiplying, mysterious beauties without having his mind enlightened, and his admiration increased towards the Omnipotent Being,

> "Whose sun exalts,
> Whose breath perfumes, and whose pencil paints
> The fritillary?"

NOTES ON NEW OR RARE PLANTS.

Abies bracteata. Bracteated Silver Fir.—A beautiful Californian species, first discovered growing on the Andes of St. Lucia by Dr. Coulter; Mr. David Douglas also met with it at an elevation of 6,000 feet, on the Californian mountains, of latitude 36° north. Both of these gentlemen failed in bringing home perfect seeds, but Mr. Lobb, the collector of Messrs. Veitch and Son, has succeeded, and now living specimens may be seen at their nursery. Mr. Lobb says, "This beautiful and singular tree forms here the most conspicuous ornament of the arborescent vegetation. On the western slopes, towards the sea, it occupies the deep ravines, and attains the height of 120 to 150 feet, and from one to two feet in diameter; the trunk is as straight as an arrow; the lower branches decumbent; the branches above are numerous, short, and thickly set, forming a long tapering pyramid or spire, which gives to the tree that peculiar appearance which is not seen in any other of the Pinus tribe. When standing far apart, and clear from the surrounding trees, the lower branches frequently reach the ground, and not a portion of the trunk is seen from the base to the top." The cones are particularly singular, being covered with numerous long narrow spines, rising erect, which give them a striking appearance. —Figured in *Bot. Mag.* 4740.

BRAVOA GEMINIFLORA, THE TWIN-FLOWERED.—It belongs to the natural order Amaryllidacœa, introduced from Valladolid and Miciciacan in Mexico, where it was discovered growing on the mountains, and was sent to Sir Charles Lemon from the Real del Monte mines by Mr. Repper. It is a plant easily cultivated in a warm greenhouse, growing about a foot high and producing an upright raceme, bearing about twenty flowers, produced in pairs, drooping, each about an inch and a half in length, tubular, of a bright orange-red.—Figured in *Bot. Mag.* 4741.

ERYTHROCHITON BRAZILIENSE.—A palm-like plant, belonging to the Pentandria class, growing in its native habitat about ten feet in height, erect and unbranched, having a tuft of long leathery leaves at the top. The flowers are produced on peduncles of about a foot and a half long, having about ten flowers on each. The calyx is about an inch and a half long, of a bright red, which contrasts well with the large white silver-shaped corolla of three inches across. It requires the heat of a stove and is very ornamental, blossoming nearly all the year round.—Figured in *Bot. Mag.* 4742.

SCHEERIA MEXICANA.—A very handsome species, closely allied to *Gloxinia* and *Achimenes*, being, "in flower" like the former, and "in growth" like the latter. It was introduced to the Royal Gardens at Kew by Frederick Scheer, Esq., who received them from Chihuahua, a northern state of Mexico, in 1850, from J. Potts, Esq. The flowers are produced in profusion, each one being about two and a half inches across the face, with a wide throat, similar in form to the well-known *Achimenes multiflora*, but much larger; the colour is bright plum, with a light throat, very distinct and fine. The foliage is very fine, green on the upper side and brown underneath. This will no doubt become a great favourite in our stoves when more generally known.—Figured in *Bot. Mag.* 4743.

BERBERIS CONCINNA. THE NEAT BERBERRY.—A pretty species of this handsome genus, introduced by Dr. J. D. Hooker, who gathered seeds of it from small bushes, which he found growing in the Lachen valley of Sikkim-Himalaya, at an elevation of from 12,000 to 13,000 feet. It is now flourishing in the open border at the Royal Gardens at Kew. It is a neat-growing spreading bush, of about 2½ feet in height, with small handsome foliage, a shining deep green above, and snowy-white below. The flowers are numerously produced on the branches, singly, light-yellow, globose.—Figured in *Botanical Magazine*, 4744.

HÆMANTHUS PUNICEUS, THE SHOWY (N. Order, Amaryllidacœa).—The Rev. — Rouper, of Wichall, near Brighton, sent bulbs of this handsome plant from Natal, to the Royal Gardens at Kew, where, in a cool frame, it has recently flowered. It has somewhat the appearance of the old inhabitant of our greenhouses, H. puniceus; but it is a larger growing plant, and its flowers are in proportion. From the large bulb arises a stout "*much-spotted,*" cylindrical *stem*, and from near the centre arises the stout, long-erect spotted flower-stalk, which terminates in a tuft of leaves, in the centre of which is the "large umbel" of numerous long, narrow, lance-shaped, or thread-like flowers, of a rich orange-scarlet colour. The beautifully-spotted stalks, and singular rich-coloured flowers render the plant very handsome.—Figured in *Botanical Magazine*, 4745.

Cyclamen africanum (Synonymes, C. Neapolitanum, C. macrophyllum).—This handsome, noble species grows abundantly in Algiers. It is remarkable for the size of its leaves, which are heart-shaped, 8 inches long by 6 inches broad, and handsomely marbled with *dark* and *light* greens. The flowers are produced on long stalks, each blossom being 2 inches across, of a beautiful rose, with a carmine centre, and several spots of white around the eye. It is a magnificent species, each plant bearing from four to a dozen blossoms, which are usually produced through autumn, winter, and spring. — Figured in Van Houtte's *Flore.*

Passiflora Decaisneana.—This magnificent flowering Passiflora has recently attracted much attention on the Continent. It is belonging to that section of Passifloras in which are P. alata, and P. quadrangularis; but it far exceeds either of these, or any other Passiflora, in the size and splendour of its flowers. Its foliage and general appearance is like the P. alata, and it is supposed to be an hybrid between that species and P. quadrangularis. Each flower is 5 inches across, and both the five broad lobes of the calyx and five broad petals are of a rich rosy-crimson, and the inside nectarium is composed of a multitude of thread-like fibres; the exterior "long ones" have a white ground, and each has twenty or more bars of red, blue, and white, producing a beautiful chequered appearance; around the base, too, of the nectarium there is a broad crimson rim. It is a magnificent blooming plant, flowering very freely, grows rapidly, and is highly entitled to a place in every stove, warm greenhouse, or conservatory. — Figured in Van Houtte's *Flore*, 848.

Pitcairnia nubigena (N. O. Bromeliaceæ, or "Pine Apple Plants").—A native of the Columbian Mountains, growing at an elevation of from 8,000 to 9,000 feet. The leaves are long, smooth, lance-shaped. The flowers are produced in a terminal, pyramidal-shaped head, having fifty or more in each raceme. A single blossom is about 3 inches long, the lower part of which is of rich orange and sulphur colours, the upper half of a beautiful rich carmine. It is very handsome, and merits a place in every stove. M. Linden, nurseryman, Brussels, possesses this fine species, in whose establishment it has flowered.—Figured in Van Houtte's *Flore*, 847.

CULTURE OF CINERARIAS, WITH A LIST OF A FEW CHOICE KINDS.

BY MR. JOHN BURLEY, OF WELLINGTON NURSERY, ST. JOHN'S WOOD, LONDON.

This early spring-flowering plant is become quite a favourite with all lovers of flowers, and especially with those that require early ones in their greenhouses and conservatories. The almost endless variety of colours and their easy mode of culture combined, make them still more valuable to those who delight in various coloured masses of flowers without the aid of artificial heat. The present month being a very desirable time of the year to procure plants required for exhibiting in the coming spring, or for decorating the greenhouse, &c., I am induced to offer for the perusal of the readers a few hints on their general culture, the soil required, and the best mode of propagating them by seeds and cuttings.

SOIL.—The best for them is one-third maiden loam, and one-third rotten dung, *decayed to mould,* and one-third leaf-mould, sand, and a sprinkling of yellow loam. The above materials must be well mixed together, and used in as rough a state as possible. The pots should be washed clean before used, as nothing can be more baneful to the health and growth of the plants if this is not duly attended to. Supposing the plants are now of good size, and well filled with roots, they should at once be shifted into larger; and great care should be taken in their various stages of growth that they do not get pot-bound, for directly this is the case the leaves become sickly and pale, and generally the green fly then attacks them, and the plant starts for bloom prematurely. There are certain varieties for *early blooming* that are particularly adapted for it; those varieties of course would suffer by being allowed to get pot-bound, as the blooms of those would be in perfection before such liability from growth or hot weather.

The best place for growing Cinerarias is in a *pit* or *frame.* The height required would be just enough to allow the flower stems to be clear of the sashes when in bloom; as all are aware that the nearer these plants are to the glass the better will be their general appearance and health. At all seasons of their growth the plants should have all the air possible, *except when the weather is severe, and will not admit of so doing.* In fine mild days in winter the lights should be taken off, so as to give them the benefit of it to dry up damp, &c., that wet weather will cause to take place. Should the wind be blowing at any time from the east, the lights should be slightly tilted on the side contrary to the direction in which the wind is blowing, as easterly dry winds retard their growth, and cause them to be unhealthy. In the winter a slight bank of dung should be raised outside the brickwork of the pit or frame, to keep off frost at nights. When the weather is very severe, let a good coating of straw and mats be placed on the top of the lights, as great care must be taken to exclude *all frost,* for the *least frost* destroys these plants. In winter, when frosty weather continues for some time, if the covering is removed from the top of the lights to admit a little sunlight, if only for an hour, it will be found beneficial to the plants, as long confinement in the dark causes them to damp off; but this can in a great measure be subdued, by having the bottom of the frame prepared in the following manner. Supposing, of course, that the ground the frame or pit is on is well drained, and the bottom of the pit level with the walk on the outside, there should be placed about three inches of rough materials, as bricks, crocks, or any other thing to carry away the water quickly; let it be well rammed, to be as solid as possible, and on the top of the same finish off with a slight coat of coal ashes, to form an even surface to place the plants on. This will be found in winter to be quite dry, and of course no damp will arise; and being protected from frost, no other precautions will be found necessary for their safe keeping in winter. If the pit or frame be near a greenhouse, or stove heated with hot water, and where it will be convenient to construct a branch-pipe through the pit, so much the better, as the above precautionary attentions would not be requisite when sufficient heat could be turned on to do the double duty of keeping out frost and damp. Where convenient I recommend its adoption.

As the plants come in bloom they may be removed to the greenhouse or conservatory, be kept shaded, and have plenty of air; they will then continue in beauty for a long period. When they have done blooming, any variety that it is intended to propagate from should (after seed is saved from it) be placed in a frame in a shady part of the garden, removing about an inch of the top soil to allow some fine fresh soil to be placed around the plant in its stead; this will be found useful for the young off-shoots or suckers, as they break up from the bottom. Watering at this point of their culture should be applied very sparingly, or the plant will perish; in fact, what I recommend them to be placed in a frame for, is to preserve them at this time from rain and damp. By keeping them so for a short time, offshoots will be found to break up from the bottom, which must be removed; cutting them off in the fresh mould, and as close to the main stem as possible. They will then be found to strike very free. In preparing the cutting-pot for the reception of these young shoots, let them be well drained with crocks, then some siftings, upon which the same kind of soil as is used for the plants, only sifted finer and a greater quantity of sand in it, upon which, covered with a coat of, say about half an inch thick, to prevent the cuttings from damping off. After inserting the cuttings, give them a slight watering, and when well drained, place the pot under a common hand-glass or frame, and let it be kept close. Very little will be required to be done to them before they are rooted, except shading or removing a dead leaf. Scarcely any water should be given, as the humidity of a close frame is nearly sufficient until well rooted. When they are rooted, put them in small pots and keep them close for a day or two, then give a little air; increase gradually. Whilst the plants are young they require a little extra care, as the mildew is apt to attack them; if so, immediately dust the parts affected with sulphur. Green-fly is the greatest enemy to Cinerarias; thrips, too, sometimes make their appearance, but both may be destroyed by fumigating with tobacco, or syringing over and under with tobacco-water, where fumigating is not easily done. *It will be necessary to fumigate two or three nights in succession, as the first smoking in general only stupifies them,* and the next day they are at work again, and a speedy new progeny soon appears.

In raising seedling Cinerarias, it will be necessary to select a plant as dwarf-growing as possible of each decided colour; they should be placed by themselves in a pit or frame, and sow in pots or pans, as follows: Let them be drained, similar to those recommended for cuttings, but on the surface let some fine sandy soil be used, covering the seeds lightly with the same, and in a few days the seedlings will be up. Let them remain in the pan until they are large enough to be handled safely, when they may be potted and treated as before recommended for cuttings. Should any of the seedlings have a tendency to grow tall and rank, let them be destroyed, as they will not have a flower worthy of notice, and the tall growth, too, renders it unsightly.

By pursuing the above method of treatment, I am sure the readers of this article may grow them to perfection. The above mode of treatment is adopted in this Nursery, and it is generally known that my respected employers have grown, as well as raised, the finest specimens and varieties in cultivation.

Annexed is a list of thirty-six of the best now out:

Advancer, clear white with blue edging, splendid form, light disc.

Brilliant, fine crimson-carmine, good, stiff petal.

Catharine Hayes, white and purple, very striking flower.

Claude Melnotte, fine rich plum-coloured, fine form.

Charles Dickens, purple-puce, large flower, first-rate form.

Charlotte, white and bright carmine, with extra fine qualities.

Constellation, clear white, with a clear fine blue edging, extra.

Conspicua, pure white, fine-formed flower.

Criterion, porcelain blue tipped with white, good form and habit.

Duke of Wellington, deep purple-blue, rich colour, fine form.

Electra, violet-purple with distinct light eye.

Empress Eugenie, white with violet-crimson edging, extra.

Estelle, large white with puce edging, very free bloomer.

Etoile de Vaise, white with a plum edging, fine form, extra.

Garland, white and rosy-purple, fine form, extra.

John Bull, fine blue, good flower, the best of its colour.

Kate Kearney, the best clear white self, fine form.

Lablache, deep blue, fine dwarf habit, splendid flower.

Lady Camoys, white, with deep blue edging.

Lady Hume Campbell, white with a blue edging, good form.

Lady of the Lake, fine white and lavender, large flower.

Lord Palmerston, deep blue, dwarf, and very free bloomer.

Lord Stamford, white, finely edged with porcelain blue, splendid form; decidedly one of the best flowers yet raised.

Marguerite d'Anjou, dark crimson, maroon disc, fine bold petal.

Marianne, white and rosy-crimson, quite round, stiff petal.

Mr. Sidney Herbert, shaded purple, fine bold flower.

Mrs. Beecher Stowe, white, with purple edging and disc.

Mrs. Sidney Herbert, white and carmine, distinct and fine.

Mr. Seagrave, good dark blue, extra good quality.

Nonsuch, crimson plum, fine form, good flower.

Novelty, damson, with light disc, large rich flower, extra.

Picturata, clear white, with deep edging of rosy purple, lavender disc, splendid form; the best in cultivation.

Prince Arthur, scarlet crimson, fine stout flower, extra.

Rosalind, white, tipped with purple, grey disc, splendid form.

Rosy Morn, crimson and white, fine petal.
Tyrian Queen, fine blue, extra good form.

The above varieties would form an unequalled collection. Almost all colours are there.

HISTORY OF FLOWER-GARDENS.

BY AN AMATEUR FLORIST, MIDDLESEX.

It does not appear that either the Greeks or Romans indulged a taste for flowers; none at least that would imply their having gardens set apart for the culture of these pleasing objects; or that they ever endeavoured to improve their own wild and indigenous plants, or imported others from foreign countries. We can only consider the florid description of the garden of Alcinous as the effusion of poetry; and those of Cicero and Pliny were only vineyards with grottos, alcoves, and arbours. It is not, in fact, above two centuries ago that our gardens were probably, in point of taste as well as of products, even inferior to those of the Greeks and Romans; and for the most of the embellishments we now possess of flower-beds, shrubberies, and conservatories, we are indebted to foreign countries. The nations among whom a taste for flowers was first discovered to prevail in modern times were China, Turkey, and Persia. The vegetable treasures of the eastern world were assembled at Constantinople, whence they passed into Italy, Germany, and Holland, and from the latter into England; and since botany has assumed the character of a science, we have laid the whole world under contribution for trees, and shrubs, and flowers, which we have not only made our own, but generally improved in beauty and vigour. The passion for flowers preceded that of ornamental gardening, which still continued to be totally destitute of taste. The Dutch system of straight walks, enclosed by high clipped hedges of Yew or Holly, everywhere prevailed, and Tulips and Hyacinths bloomed under the sheltered windings of the "walls of Troy," most ingeniously traced in box.

Notwithstanding all the ridicule that has been directed against Brown and Repton, we are certainly indebted to them, in no small degree, for expelling the stiff formality of the Dutch system of ornamental gardening, and enlarging our prospects by the exchange of walls and high trimmed hedges for the sunk fence. But the person who succeeded in bringing us back to the point nearest to nature was Kent. It was he who, as Walpole observed, chastened and polished, not transformed, the living landscape. Where the united plumage of the ancient wood extended wide its undulating canopy, and stood venerably in darkness, Kent thinned the foremost ranks, and left but so many detached and scattered trees as softened the approach of gloom, and blended the chequered light with the thus lengthened shadows of the remaining columns. From this time the taste in pleasure-grounds, shrubberies, and ornamental gardening has gradually improved, and may now be said to have reached a degree of excellence in this island unrivalled in any other part of the globe.

It is certain that no country on earth can boast the assemblage of shrubs and flowers now to be found in Britain. Most countries have a predilection for some particular plants, while all the rest are disregarded. In Turkey, for instance, the flowers which, after the Rose, are principally esteemed, are the Ranunculus and Tulip, the latter of which grows wild in the Levant; but through accident, weakness, or disease, few plants acquire so many tints, variegations, and figures as the Tulip. This gaudy flower was first cultivated in Italy about the middle of the sixteenth century, under the name of Tulipa, obviously derived from tuliband, which in Turkish signifies a turban.

(*To be continued.*)

ON THE EUPHORBIA JACQUINIFLORA, (OR FULGENS).

BY A NOBLEMAN'S FLOWER-GARDENER.

If we take a retrospect of the plants that have been introduced into the stoves of Great Britain within some few years, not one has preference to the Euphorbia Jacquiniflora (or fulgens): the length of time the flowers continue expanded, the elegant growth of the plant, if properly managed, and its very long spikes of rich orange-scarlet flowers, give it a decided pre-eminence among stove plants. This lovely plant is a native of Mexico, and was introduced into Germany a few years ago, through Baron Kerwinski, and from thence into Britain by Mr. Runch.

Cultivation.—Mix equal quantities of loam, peat, and rotten cow dung with a little sand. If cow dung cannot be got, any very rotten manure will do. *Cuttings* will strike very freely in sand. After they are struck, pot them off into sixty pots, and shift them regularly as the pots become full of roots. It is very necessary to stop the terminal shoots frequently, otherwise the plant will grow very tall and slender, and, as gardeners term it, be long-legged. When the pot is full of roots the plant will flower, even if it be small; but it must be observed, that if cultivators desire to have large plants, they must shift them frequently until they wish them to display their beauteous flowers. It is a charming plant for winter and early spring bloom; in fact, by proper treatment, a succession can be had all the year, and nothing more lovely than spikes a foot or more long of its showy brilliant blossom, each flower nearly the size of a sixpence. It does well in a hot-bed frame of moderate temperature, as well as in the stove. It may be kept during winter in the greenhouse, but must, during the season of rest, be kept nearly dry, and give water when you want again to promote its growth.

WINDOW-GARDENING.—THE GENUS CACTI.

BY MR. J. RANCHLY TANTON.

Allow me once more, through the medium of your excellent and *precieux* work, to accede to the wishes of a lady botanist who is well-known in the world, not only as a great patron of the science of floriculture, but her merits as a botanist stand unrivalled. At this fair member's request, I wish to forward a few brief remarks on the above magnificent tribe of plants:

It is universally known that the Cactaceæ is an extensive order, containing a vast many succulents, chiefly inhabitants of the New World, and America appears to be the exclusive station of this order. They are abundant in the tropics, and hot, dry, exposed situations appear to be their favourite resort, for which they are peculiarly adapted by having imperfect evaporating pores on their epidermis, a circumstance which has long been shown, that accounts for the excessively succulent state of their tissue. These plants are of various habits and characters, but now separated into several distinct genera, as Cereus, Echinocactus, Melocactus, Mamillaria, Opuntia, &c.; and by many authorities the original genus is entirely superseded; but being regarded as the type of a remarkable and large *order*, it is thought by some it should be retained. It cannot, however, be said to contain but a few species, these being divided into two sections, one for stove culture, the other for the cool greenhouse. The latter is the section of which I now treat, being most proper for *window ornaments*, likewise better suited for the cultivation they would receive at the hands of those who are ordained to rule and govern domestic economy, and similar household affairs. In taking the cultivation of the *greenhouse* species and varieties under consideration, I observe they are of the easiest possible culture; likewise in propagation, as pieces taken from the plant any time during summer (the earlier the better) and laid on a shelf or similar place for at least one week, then planting them in pots filled with moderately dry compost; the pot well-drained, and giving little or no water, as circumstances may require, till they are fully established; and should the period happen late in autumn, water must be withheld till the following spring, at which time they will require shifting. These plants delight in a *rich soil*, composed of fibrous loam, leaf mould, and reduced manure, mixed up with numerous pieces of broken bone and small potsherds, and a quantity of them placed at the bottom of the pot, that an effective passage may be secured, as all Cactaceous plants are very impatient of excessive moisture. When the plants have attained the required maximum size, they will require the soil renewed once a year, and to be liberally watered during the summer and growing season, with a gradual reduction as the resting season advances, and which is the period most precarious, as the plants during winter, in sitting-rooms, acquire a very languid appearance, which the attendant is often led to conclude arises from want of water, and consequently applies it, which is most injurious, for at this season the vital powers are stopped; the plants cannot, therefore, take up and assimilate that which is thus supplied. Therefore, if their resting season is not attended to in due form, a production of ill-formed shoots instead of flowers will be the result, if the plant is not even destroyed. Consequently rest (as I pointed out in a previous article) is the foundation-stone of a successful bloom. At early spring, blossom buds will appear, and when they have attained a necessary degree of development, water must be applied, *commencing* gradually and moderately at first, and the flourishing buds will begin to swell rapidly. Then an application, twice a week, of diluted manure-water, made from sheep and pigeon's dung will be very beneficial at this period. The plants become gross feeders till their petals begin to unfold, when the manure-water may be withheld till after flowering, when it must be again resumed to support the rapid growth which then ensues; at the completion of which the plant should be removed outside the window, or in a situation commanding *a full sun* to ripen their wood necessary for the support of the blossom the ensuing year; and by *attending* to the last-mentioned rule, the progress of the plants will be an uninterrupted course of vigour, and the resulting bloom most satisfactory. As regards inuring, many of the *stove* species may, by the above treatment, be brought to flourish in the sitting or drawing-room window, among which is the beautiful *Epiphyllum truncatum*, which plant, although under many appellations, I here choose to continue the name by which it is commonly known—(there are three varieties of it, too, equally handsome, namely, purple, rose, and flesh-colour). The generic name Epiphyllum is derived from the Greek *epi*, upon, and *phyllon*, a leaf, in allusion to the station of the flowers upon the leaf-like branches. The most beautiful of the greenhouse group is the Cereus speciosissimus, as its generic name implies, being derived from the Latin word *cereus*, signifying *pliant, like wax;* referring to the shoots of some of the species being easily bent. According to many physiologists, the fruits of many of the Cacti are extensively used as an article of dessert, many of them being similar in properties to that of currants; others are valued as palliatives of intermittent fever, in consequence of their refreshing subacid juice.

SUMMER TREATMENT OF GREENHOUSE PLANTS.

BY THE FOREMAN OF A LONDON NURSERY.

On account of the variety and number of greenhouse plants, it is rather difficult to reduce them to any one certain rule; not only because they are less expensive, and consequently more cultivated, but also that our milder climates, are found to produce plants in greater abundance than the Torrid Zones. Therefore the business of shifting is, in general, a weighty concern. To be enabled to execute it with regularity, every preparation should be previously made, and the different sorts of mould laid up in a shed; as well to keep them from becoming too wet for use by sudden showers, as from getting too dry by the action of the sun, or arid winds, which may be expected at this season. Also on wet days (if nothing more urgent is to be done) let a quantity of old broken pots be made small, to serve for draining the tenderer sorts; the coarse siftings of peat being sufficient for the stronger growing kinds. Whilst I write about the *general* potting, I must observe, at any other time, re-pot when a plant requires it.

Things being thus in readiness about the middle or end of May, the *general shifting* should be commenced: in order to which, let some of the plants be carried to the shed, and carefully proceeded with; observing, above all things, not to injure the roots, but gently to loosen them with the hand in such manner, that the mat of roots, which is generally formed on the outside, may not remain entire; whereby they will soon strike into the fresh mould that encompasses them; very long roots may be shortened.

Greenhouse plants for the most part require a considerable share of pot room, as many of them are very free growers; but still great caution is necessary, to avoid over potting the tender weak growing kinds. When shifted, let them be tied up, if requisite, and well watered. It will be also necessary to shade them for a few days from the influence of the sun and winds until they are perfectly established in the fresh mould. Any dead or ill-grown parts can now be with propriety cut away, so as to give the heads a regular neat appearance; by observing this process, it will be found, that though a temporary check may be the consequence, they will soon flourish and do much credit to the operator by their healthy appearance and progress.

It being mentioned that shelter, and occasional shade is necessary for a few days when they are first placed in the greenhouse, I must add, that should the weather prove dark and cloudy, this work may be omitted: however, if hot, sunny weather ensue, it will be indispensably necessary; and also, to syringe them overhead twice or thrice a-day when first potted.

By the end of May it will be time to prepare the out-door departments in which it is intended the plants should stand during the summer months.

The most eligible situations for this purpose are the north aspect of vacant walls or hedges, where they will be a little shaded from the noonday sun, or between rows of close hedges, particularly planted and solely appropriated to this purpose. I can by no means espouse or recommend the practice of setting them close under the shade of branches of large trees, as the plants are thereby inevitably drawn into a weak state in a few weeks, and those who adopt such situations are not unfrequently under the disagreeable necessity of throwing away many of perhaps their most rare plants every autumn; and even those that remain will have a bad, unsightly appearance. Indeed shelter from the *winds* is the great desideratum, to prevent their being upset; for in my opinion most greenhouse plants are fond of the *warmth of the sun*, except when recently potted, provided their roots are kept moderately moist. Let us look for a moment to the arid mountains of the Cape, and there we shall find them exposed to its full glare, and perhaps without water for months: their roots, however, can penetrate deeper there than they can possibly do in pots, so that life is preserved, and as soon as the periodical rains commence, they resume in a very little time their verdure, and "breathe their balmy fragrance all around."

Some gardeners' practice is to plunge them amongst the shrubs and flowers of the pleasure-ground; this answers pretty well with the strong growing kinds, such as myrtles, geraniums, coronillas, &c., old plants or supernumeraries that will not be wanted to house in the autumn, and even has a very pretty effect when judiciously done; but it will by no means do for the tenderer species. Therefore, upon the whole, the most unexceptionable situations are such as at the same time afford a moderate portion of shade, and are so situated as to break the force of those strong gales which frequently blow in the summer and early autumn months, and yet allow that free circulation of air so necessary to the well-being of plants in general, and at all seasons. Having fixed on the place they are to stand, it must be thoroughly cleansed from weeds, and the hedges, if any, neatly clipped. It should then be well rolled, to make it perfectly firm and level; over it a layer of good lime, slacked, and made into the consistency of thick whitewash, mixed with gas tar, should be poured, and allowed to soak into the surface: this is a preventative against worms getting into the pots, which is always injurious to the plants. When this is dry, let about an inch of finely-sifted gravel or sand be regularly laid on and firmly rolled.

Being thus prepared, the plants may be brought out and set regularly and level on the surface, in whatever form may best suit the situation, or the fancy of the proprietor. Even on this subject a few observations may not be unnecessary.

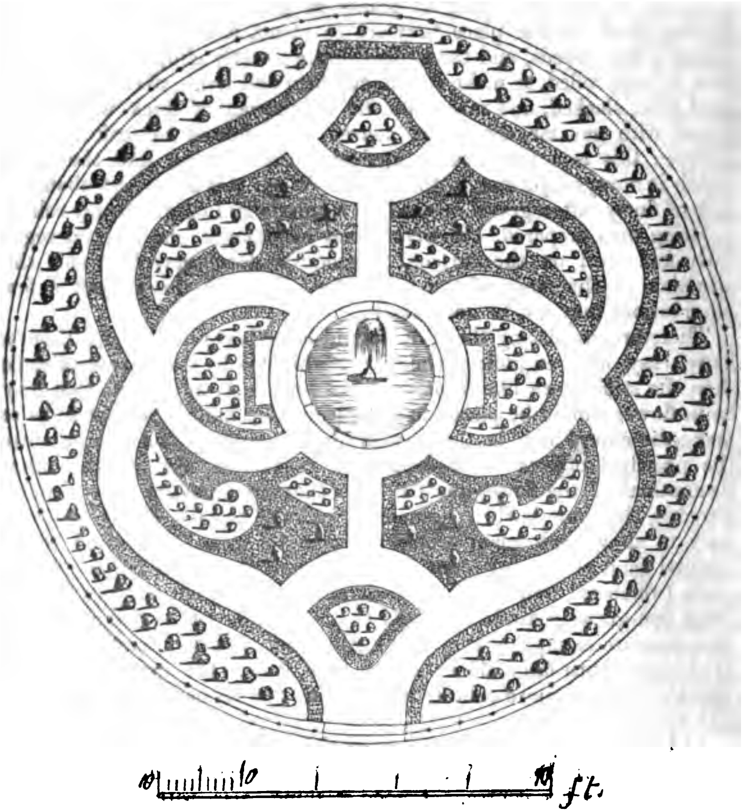
Therefore, in placing them, it should be endeavoured to give them a loose, easy, but yet judicious manner; which is by far more handsome than the stiff, shorn-like front, admired by some: any plants that may be in flower should be placed in conspicuous situations, but not so as to make the clump look in the least tawdry; simplicity and neatness are the principal objects to be considered in this as well as the other decorations of the flower-garden. Another circumstance to be remembered is, that now as their summer-growth commences, it will be necessary to allow each plant sufficient room to spread according to its natural habit of growing: and also to be careful that the curious tender sorts (which are frequently the most valuable) are not crowded by the large free-growing kinds. Indeed they should be set, as well as heaths, in a separate clump, as they lose a good deal of their interest, by being confounded with large showy plants that attract the eye, at the first glance, from the more delicate and minute, but to many not less attractive species.

Should the weather prove dry when they are thus set in their clumps, they must be freely watered, particularly in the afternoon, when the sun has nearly ran his course. A good washing, also, with an engine, or syringe, at times, in the absence of the sun, will be of considerable service to them; but if any individual plant should at any time become too wet, let it be placed apart from the rest, and not watered again until it evidently requires it. This is a circumstance which I shall have occasion to mention hereafter; all that is necessary now, for a few weeks, is to pick off dead or withered leaves, and weeds of every description; and a regular attention to the directions already given.

PLANS OF FLOWER-GARDENS.—By T. Rutger, Esq.

No. 12.

A copy on an enlarged scale of the annexed design was furnished at the request of a friend, and, being approved of, I had it carried into effect. The circle stands in the middle of Morice-square, in the town of Devonport, and is enclosed by a dwarf wall, coped with stone, and surmounted by an iron palisade. The basin in the centre has a fountain, and is well stocked with gold and silver fishes. The recesses, one on each side of the basin, are intended for garden seats, to be overshaded by trellis-work and creepers. A place for a seat is also provided at the farthest part of the circle, opposite the entrance.



The portions of grass, with the grass verges, give a lively appearance to the whole, as well as flowers, which are liberally supplied and interspersed among the choice and light-growing shrubs during the summer.

MISCELLANEOUS SECTION.

Some of the Handsome Plants of China.—"Ah, you have come back!" "Are you well?" "How did the plants get home?" "Were they much admired in England?" were the questions which were rapidly put to me by the old nurseryman and his sons; at the same time they brought a chair, and asked me to sit down under the awning of the cottage. I told them that most of them had arrived safely in England, and that they had been greatly admired. This garden contains many of the beautiful plants introduced by the Horticultural Society of London, from 1843 to 1846. Amongst some pots at the entrance there were fine plants, of the now well-known *Weigela*, the pretty *Indigofera decora*, *Forsythia viridissima*, and a fine white variety of *Wistaria Sinensis*. Round the sides of the ditch were many magnificent specimens of *Edgeworthia chrysantha*, and *Gardenia florida Fortuniana*, growing in the open ground. Some of the Gardenias were 4 feet high and 15 feet in circumference. When covered with its large camellia-looking blossoms, it is extremely handsome, and at all times forms a pretty evergreen bush. In a bed in the middle of the garden the white variety of *Platycodon grandiflorus* was in full bloom, and near it a bed of *Dielytra spectabilis*. Both these looked very handsome, particularly the latter; its large purse-like blooms, of a clear red colour, tipped with white, and hanging down gracefully from a curved spike, and its mountain-like leaves, render it a most interesting plant, and one which will become a favourite in English gardens. Several kinds of roses were growing in pots, and amongst them the new yellow, or salmon-coloured, introduced by the Horticultural Society. This rose deserves more notice at home than it has yet had; doubtless it will be more thought of when it is better known and properly treated. It should be planted out at the foot of a wall with a southern or western aspect, and allowed to scramble over it. It grows rapidly; the flowers are of a striking colour, and are produced in great profusion. Fine plants of *Viburnum plicatum*, and *V. macrocephalum*, were also noticed, both in pots and also in the open ground. I also observed some young plants of the interesting palm-tree (*Chamerops excelsa?*), which I have already noticed in the earlier pages of this work. It is perfectly hardy about Shanghae, and thrives there, unprotected, throughout the severest winters. There were other palms, yet this was the only one that seemed hardy. Here were also some beautiful peach-trees, with double flowers. Two of these have already been described by Dr. Lindley, and named the double white, and double crimson peaches. But, fine as these undoubtedly are, there is a third, far more beautiful and striking than either of them. This produces large double white flowers, which are striped with red or crimson lines like a carnation. A tree of this variety, in full bloom, is one of the most beautiful objects that can be imagined. These double peaches seem to be particularly well adapted for forcing, as they form their flower-buds fully in autumn, and are ready to burst into bloom with the first warm days in spring. A little artificial heat, therefore, will bring them into full flower about the new year, or any time from that period up to March. As spring flowers, they are highly prized by the Chinese. Itinerant gardeners carry them about the streets for sale in the northern Chinese towns. The flower-buds were then just beginning to expand; the buyer puts them into pots, gives them a little water, and places them in his window or sitting-room. In a day or two the buds burst, and the little tree is one mass of bloom. In this state all the three varieties are very beautiful; but I think the carnation-striped one is the handsomest of them all. In the centre of the South Garden there is the family tomb—a large mound of earth, covered with many pretty flowers. Here the old man's forefathers, for many generations, lie buried, and here he will sleep among the flowers beloved in his lifetime. This garden contains a good assortment of shrubs and trees which have been longer known than those I have enumerated. There are some beds of Reeve's Spiræa (*S. Reevesiana*), a beautiful shrub; the Chinese Juniper, *Hibuscus syriacus*, *Wistaria sinensis*, *Lagerstræmias*, plums, and the favourite La-mae (*Chimonanthus*), with which Chinese ladies decorate their hair. I had now made the circuit of the garden, and came to the little wooden bridge, by which I entered, to the gardener's house.

When I reached Chusan, in latitude 30° north, I found a remarkable change in the appearance of the vegetation. Tropical forms had entirely disappeared, or were rarely met with. Although the summers were as warm, or even warmer than they were in the south, yet the winters were nearly as cold as those we have in England. At this place, and all over the provinces of Che-kiang and Kiang-nan, the Glycine seemed to be at home. It grew wild on every hill-side, scrambling about in the hedges by the footpaths, and hanging over and dipping its leaves and flowers into the canals and mountain streams. But by far the most beautiful effect is produced when it attaches itself to the stems and branches of other trees. This is not unfrequent in Nature, and is often copied by the Chinese, and introduced into their gardens. One can scarcely imagine anything more gorgeous or beautiful than a large plant of this kind, in full bloom. Its main and larger branches are entwined round every branch of the tree, and from them hundreds of small ones hang down until they nearly touch the ground. The whole of the branches are covered with flower-buds, which a day or two of warm weather brings rapidly forward into bloom. To form an idea of the effect produced by these thousands of long lilac racemes, one must imagine a floral cascade, or a weeping-willow covered with the flowers of the Glycine. There are some large specimens of this kind on the Island of Chusan;

one in particular was most striking. Not content with monopolising one tree, it had scrambled over a whole clump, and formed a pretty harbour underneath. When I saw it last it was in full flower, and had a most charming appearance. The Chinese are fond of growing the Glycine on trellis-work, and forming long covered walks in the garden, or arbours and porticos in front of their doors. There is a remarkable specimen in the garden of a mandarin, at Ning-po. Growing in company with it is the fine new variety introduced lately by the Horticultural Society of London, and described in the Journal of the Society. In foliage and general habit the two kinds are nearly alike, but the new one bears long racemes of *pure white* flowers. The kind old gentleman to whom the garden belonged allowed me to make layers of this plant on the top of his house; and during the summer months, when I was travelling in other districts, attended to them and watered them with his own hands. I visited several nursery-grounds, about ten or twelve miles to the eastward of Shanghae. In one of these nurseries I found a *yellow* Camellia, and it was in bloom when I bought it. It is certainly a most curious plant, although not very handsome. The flowers belong to the Anemone, or Warratah class: the outer petals are of a French-white, and the inner ones of a primrose-yellow. It appears to be a very distinct species in foliage, and may probably turn out more hardy than any of its race. — *Fortune's Journal to the Tea Countries of China.*

Plants for Pillar Decoration.—Experience of the usefulness of the common Heliotrope (*Heliotropium peruvianum*) enables me to come forward as its advocate; and I can justly place it foremost in the rank of plants for adorning pillars, wires, or any other suitable situation of a cool conservatory where a graceful pyramidal appearance would be deemed an acquisition. Few lovers of plants and flowers pass through our conservatory without granting their tribute of praise on the subject under notice, which runs up a pillar to the height of 14 feet, and about 3 feet diameter at the base, tapering in its upward progress to a couple of leading shoots, forming a pyramid of pendent branches, with clusters of flowers hanging gracefully from the extremities of each of them. I find it requisite to pinch all the laterals proceeding from last year's growth of the leader, or any other strong shoot protruding without the boundary; it induces them to throw out a number of weaker stump or flowering shoots, checking their vigour and benefiting those underneath, by directing the current of sap to them; and from their spurred nature from repeated prunings they break with more shoots than are required; the weakest should be weeded out, to allow the others the benefit of the sun and air, when they will shoot out rapidly and produce that much-admired form, the pyramid. The usefulness of this plant for the conservatory or cut bloom may be best understood when I say, that during nine months of the year it is covered with bloom. I believe it would prove perpetual were pruning not requisite to keep it in form. That operation is performed in the beginning of March; in a few weeks after, it is covered with a lively green, and its growth encouraged during that season with frequent waterings of liquid manure, which are discontinued in August. After that time, the plants placed upon the soil wherein it grows supply it plentifully with the water that has passed through them; and the increasing moisture of the atmosphere and withdrawal of sun-heat make its wants more moderate. An interesting companion opposite to it—in habit and foliage resembling it very much, whilst in the colour of the flowers it forms a decided contrast—is the lovely and rich scarlet-flowered Salvia gesneriflora. Under the same treatment as the Heliotrope it thrives equally well, and flowers abundantly during the winter and spring months. Sollya linearis, covering a third pillar, may be classed next it in usefulness for cut bloom; but it is inferior to none of the former in exhibiting a graceful habit, densely studded over with its lovely blue blossoms. It is said to grow best in a mixture of peat and sand; here it grows luxuriantly and blooms profusely during the entire spring and summer.

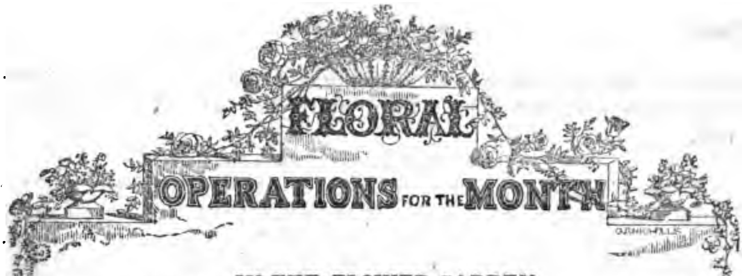
(*To be continued.*)

INSECTS ON CARNATIONS.—During the past month I have found numbers more than ordinary of a small black fly nestling in groups in the hearts and on the tender leaves of the Carnations and Picotees under my care; my Camellia buds were similarly attacked last season. I have found an infusion of the young tips of Elder (scalded by boiling water, and when cold used through a fine rosed pot over-head), not only to destroy the black fly, but to keep away the green fly also; and it does not prove in any way injurious to the growing stock; a slight discoloration of the foliage may follow its application, but this is removed by the first shower of rain.—*J. Creed, Wace-cottage, Holloway.* (*Gardeners' Chronicle.*)

WINTER-BLOOMING PELARGONIUM.—I have found Bennett's Fanny to be an excellent variety for winter flowering. During three seasons I have had it in full blossom in a cool house shortly after Christmas. In habit it is very dwarf, the truss is large, and carried well up above the foliage. The upper petals are very dark, the lower ones pink, with a large clear white centre, and edged all round with a white belt; it is very showy and attractive, and a profuse bloomer, flowering freely even in very small pots. Those who make bouquets during winter should not be without it.—*R. Francis, Florist, Worcester.*

BEAUTIFUL BED OF FLOWERS AT CLAREMONT.—"This new bed was made with the old rose-scented Geranium (*Pelargonium graveolens*), mixed with the *Verbena, Robinson's Defiance.* It was a large circle, and the Geranium was quite thick all over the space; and very likely few other Verbenas could stand so much smothering, for I could hardly see a leaf of the *Defiance*, but the bloom was as regular and thick as if there was no Geranium in the bed, and well up above the leaves, making the deception complete a short way off."—(*Dr. Beaton, Cottage Gardener.*)

MEANS OF FASTENING LEATHER UPON METAL.—The metal is washed with a hot solution of gelatine, and the leather, previously steeped in a hot infusion of gall-nuts, pressed upon the surface and allowed to cool. It then adheres so firmly that it cannot be separated without tearing.—*Allegemeine Polytech. Zeitung, March* 1852.—*Pharmaceutical Journal.*



FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

ANEMONES and RANUNCULUS still plant for early spring bloom. A number of the Turban Ranunculuses in patches are very showy. *Tulips;* plant immediately. A bed with raised sides six inches high is usually preferred, and having the surface of the bed a few inches higher in the middle than the sides. Let the bulbs be covered four inches deep. *Hyacinths* for a bed should be planted directly. *Auriculas, Polyanthuses,* &c.; allow a free circulation of air between the sides of the pots, raise the frame a few inches, and leave an opening. *Carnations,* &c.; have all air possible, but guard from excess of rain and severe frost. *Dahlias;* take up on a dry day; allow the stem to remain about half a yard long at present; in a fortnight afterwards cut it to six inches or less, if tolerably dry. *Chrysanthemums;* allow all air possible, to prevent them being drawn up weakly. Every other watering at the roots must be with liquid manure. Thin the flower-beds, and if required for exhibition only retain one flower to a shoot.

PINK AND PANSY BEDS.—Have small sticks pricked among the shoots to prevent the plants being twisted off by the wind. *Mildew* sometimes attacks *Carnations, Pinks,* and *Pansies,* and causes the leaves to be spotted; dust the foliage under and over with sulphur. *Hollyhocks*—the sooner planted, the better will they bloom. *Lobelias* of the tall class, in beds, should be taken up and placed in shallow pans or boxes, closely together; give but *little* water during winter; they may be kept in any cool place free from frost and damp. *Verbenas;* keep near the glass, give all air possible; only preserve from fogs and frost, and examine the underside of the leaves to see if green-fly be there; if so, fumigate directly. If *mildew* appears apply sulphur, only give water to the roots to keep the soil *just moist.*

DRESS FLOWER-BEDS.—Give an addition of fresh soil and manure, divide and replant perennials, biennials, &c. Let a liberal profusion of spring flowering *bulbs* and herbaceous perennials, &c., be planted in beds and borders near to the dwelling-house, as Crocus, Aconites, Snowdrops, Scillas, Hyacinths, early Tulips, &c.; and Hepaticas, Double Primroses, Polyanthuses, Auriculas, Wallflowers, Brompton Stocks, &c.; also the little Arabis grandiflora, Draba aizoides, Erica carnea, Dielytra spectabilis, Sedum oppositifolia, Turban Ranunculus, and Anemones, &c. They produce a cheerful appearance during the spring months, and are handsome to be viewed from the rooms. If severe frost occurs, protect beds of bulbs. Prick branches of yew, fir, &c., along the sides of Pink or Pansy beds, to break the force of strong wind. The stock of bedding plants must be looked after, whether in cutting, pots, or otherwise; allow plenty of air on all suitable occasions; don't *over-water*, rather have them nearly dry during the season of rest.

IN THE GREENHOUSE, &c.

Pelargoniums.—Repot the show class, give plenty of air, not too much water; fumigate if green fly appear. Stop the lead of every shoot of the large plants which are wanted to be in bloom in June, towards end of month, and also of the young plants struck the past summer, to cause them to push side shoots. *Azaleas*, for early bloom, place in higher heat, and keep those *cool* which are to bloom late. *Calceolarias*, keep in a cool place just from frost; cuttings strike well now. *Tropæolum tricolorum*, and the other tuberous roots must now be potted, if to bloom next season. T. Lobbianum, Hockerianum, &c., encourage; they will bloom through winter. *Salvia splendens*, fulgens, and gemeriflora encourage; they are fine for autumn and winter bloom. *Chinese Primroses*, repot. *Chrysanthemums*, keep in airy cool situations. *Oxalis elegans*, and others will bloom by due attention. *Neapolitan and Russian Violets* have in abundance in frames. *Ixias*, &c., now pot and place in a cool situation, or plant out of doors in a warm place. *Cactus truncatus* will now show for bloom. *Cinerarias* keep in a frame near glass, but preserve from frost. A few may be forced for winter bloom.

FORCING STOVE OR PIT.

Now have a stock of all the winter flowering plants brought in; begin with a temperature of about 55°, and increase gradually up to 75°. In addition to all bulbs, see the list in last month's calendar of winter blooming plants.

Shrubs and Trees.—If evergreen shrubs and trees were not planted last month as directed, they should be immediately; the earlier the more successful.

Plant Roses now; it is the best time. Give six inches thick of well rotted dung to all standard and other roses; take off a portion of soil, lay on the manure, and cover with earth. Prune Roses of any class but the China, Tea, and Banksian.

BRIEF REMARKS.

Culture of the Calceolaria.—I make my first sowing about the middle of July, and another about the 1st of August, in pans half filled with drainage, and then filled up with a mixture of about two-thirds light loam, the rest peat and leaf-mould in about equal proportions, with a good sprinkling of silver-sand, all sifted tolerably fine; the pans must then be thoroughly watered, so as to wet every particle of soil, and allowed sufficient time to drain before sowing; the seed may then be sown thinly, and a little finely-sifted soil scattered very lightly over it. The pans may be placed beneath a hand-glass, under a north wall, or in any other shady situation, and kept tolerably close until the plants make their appearance. The pans must be kept moist, merely sprinkling with a very fine-rosed pot; great care is required here, for if they are at all heavily watered, the seed being so very fine, is all carried away with the water. When the plants make their appearance, more air may be given them; as soon as they will bear handling, they should be pricked out into other pans (prepared in the same manner), about 2 or 3 inches apart. They will soon make nice little plants, and may then be potted off singly into 3-inch pots, using a mixture of about two-thirds tolerably light turfy loam (not sifted), the rest leaf-mould and dung from an old mushroom-bed, in about equal proportions, with a good sprinkling of sand; they may then be placed in a cold pit, and allowed plenty of air. The plants will soon progress rapidly; as they fill their pots with roots, they must be shifted into larger sizes, until they are in 8-inch and 11-inch pots, which are large enough for any Calceolaria. Frequently fumigate, to keep down green fly. In winter just keep frost from them, and have plenty of air, and keep rather dry in the pots. As spring advances, give more, and occasionally weak liquid manure.—*An Exhibitor.*

Berberis.—I had not lost sight of the beautiful new Berberis, which I have already described, and which I was most anxious to procure, in order to introduce it into Europe. I had frequently desired Wang to endeavour to procure me some young plants of it from some garden in the neighbourhood, as I could not believe it to be so rare as only to exist in the old place where I had first seen it. However, he either could not find it, or, what was more probable, he gave himself no trouble about the matter. Knowing the potent influence of dollars, I called three or four of the family around me one morning, and, showing them the leaf which I had brought with me, promised a dollar to any one of them who would bring me a small plant of the same shrub. One of them went out immediately, and, to my surprise and pleasure, returned in less than five minutes with a fresh leaf of the plant in question. "That will do," said I; "that is just the thing I want; bring me a young plant with good roots, and I will give you the promised reward." They now held a consultation among themselves in an under tone, and at last said that the plant in question had some peculiar medical virtues, and that the lucky possessor would not part with it. "Sell me this one," said I, "and you will be able to buy a dozen others with the money." "No," one of them replied; "my uncle, in whose garden it is growing, does not want money; he is rich enough; but he requires a little of the plant now and then when he is unwell, and therefore he will not part with it." This was very provoking; but the Chinese were firm, and there was nothing for it but to go, as sailors say, "upon another tack." This I determined to do. "Well, at all events," said I, "let me see the plant; don't be afraid, I shall not touch it." For some time they refused to do even this, but through Wang's influence they were at last induced to consent, and led the way down to a small cottage garden, completely covered with weeds. There the beautiful shrub was growing, apparently neglected and left to "bloom unseen." It seemed very valuable in the uncle's estimation, and he would not part with it, although I tried hard to induce him to do so. It might be that he really valued its medicinal properties, but as it must be common enough in that part of the country, he could easily have replaced it; it was not unlikely, therefore, that he supposed I should offer some very large sum to induce him to part with it.

On the following day another relation of Wang came to me in a secret manner, and informed me that he was acquainted with another place where the same plant was to be had, and that for a consideration he would go and fetch some of it for me. I engaged him at once, merely telling him that he must bring young plants with good roots, otherwise they would be entirely useless to me. This he faithfully promised to do, and he kept his word. In the course of a day he returned with three good plants, which he sold to me, and which I afterwards took back to Shanghae. These are now safely in England.—*Fortune's Journey to the Tea-districts of China.*

Pansies for Exhibition.—A correspondent, I observe, lately asked for a list of the *best* Show Flowers. The following twenty are excellent, and were selected out of twenty-two stands I saw exhibited during the past season:

Sir John Cathcart, Downie's Beauty, Hales' Monarch, Earl of Mansfield, Flower of the Day, Dickson's Royal Standard, Sir Joseph Paxton, Adela, Duke of Norfolk, Great Britain, Sambo, Sir John Franklin, Supreme, Mrs. Beck, Queen of England, Sir Robert Peel, Rainbow, France Cycole, Aurora, Euphemix.—*J. Smith.*

The Great National Tulip Exhibition, held at the Corn Exchange, Nottingham, 1853.—Twelve hundred flowers were placed for competition, and the following were in the principal stands, &c., to which prizes were awarded; and as they contain all the best kinds, they will furnish our readers with what may serve to assist in making purchases of the first-rate for planting next month. By looking over the entire, it will be ascertained which sorts were most general.

Class A.—The National Tulip Society's silver cup of ten guineas, with the following inscription,—"Presented to Mr. Joseph Godfrey, for the best twelve dissimilar blooms, at

the National Exhibition of Tulips, held in Nottingham, 1853," was awarded to Mr Joseph Godfrey, of Chellaston, Derbyshire, for two feathered and two flamed of each class, namely, Sovereign, Heroine, Queen Charlotte, Captain White, Triomphe Royale, Bagot, Magnum Bonum, Orleans, Count, Pilot, Lord Denman, and Camillus. The second silver cup of 8l., with a like inscription, was awarded to Mr. Thomas Allestree, of Draycott, Derbyshire, for Lord Milton, Lord Denman, Triomphe Royale, Duke of Devonshire, Gem, Comte de Vergennes, Captain White, David, Aglaia, Sovereign, Salvator Rosa, and Heroine. The third silver cup of 6l., with a like inscription, was awarded to Mr. Charles Spencer, of Thulston, Derbyshire, for Sovereign, Captain White, Catafalque, Polyphemus, Victoria Regina, Lord Denman, Gem, La Bien Aimée, Heroine, Triomphe Royale, and Camillus.

CLASS B.—A silver cup, of 5l. value, the gift of S. R. P. Shilton, Esq., with the following inscription,—"Presented by S. R. P. Shilton, Esq., honorary secretary, to Wilson Marsden, for the best twelve dissimilar tulips, at the National Exhibition, held in Nottingham, 1853," was awarded to Mr. Wilson Marsden, of Derby, for the Duke of Devonshire, Allen's Sarah Ann, Triomphe Royale, Earl Douglas, Lady Jane Grey, Queen of Violets, Lord Denman, Chellaston Seedling, Pilot, Catherine, Bagot, and Polyphemus. The second prize was awarded to the Rev. Samuel Creswell, for Bacchante, Sphinx, Crown Prince of the Netherlands, Sarah Ann, Polyphemus, Aglaia, Prince of Wales, Captain White, Camillus, Emily, Duke of Devonshire, and Lavinia. The third prize was awarded to Mr. Charles Turner, of Slough, for Pilot, Alexander Magnus, Princess Royal, Claudiana, Polyphemus, Magnificent, Captain White, Aglaia, Prince Albert, Heroine, Ving, and Van Amburgh. The fourth prize was awarded to Mr. Wm. Parkinson, of Derby, for Lord Milton, Camillus, Beauty of the Plain, Lady Camp, Aglaia, Alice Gray, Chellaston Seedling, Lady Stanley, Captain White, Charbonnier, Triomphe Royale, and Queen Charlotte.

The following flowers were considered the most superior ones exhibited:—Princess Royal, Queen Charlotte, Salvator Rosa, Lord Denman, Victoria Regina, Heroine, Duke of Devonshire, Rose-Emily, Claudiana, Captain White, Pilot, Clarissima, Lady Stanley, Polyphemus, Magnificent, Nymph, Earl of Richmond, Alexander Magnus, Buckley's Beauty, Camilla, General Barnevelt, Duc de Savoy, and Black Bagot. The Exhibition for 1854 is to be held in the Surrey Zoological Gardens, London.

CLASS C.—A silver cup, of the value of 5l., the gift of the Nottingham Horticultural Society, with the following inscription,—"Presented by the Nottingham Horticultural Society to Mr. Thomas Houghton, for the best six tulips at the National Exhibition, held in Nottingham, May 25, 1853," was awarded to Mr. Thomas Houghton, of Hempshill, Nottinghamshire, for Royal Sovereign, Captain White, Spencer's First-rate, Princess Royal, Heroine, and Aglaia. Second prize to Mr. Robert James Lawrence, of Hampton, Middlesex, for Pilot, Charles X., Brown's Salvator Rosa, Lawrence's Friend, Clarissima, and Aglaia. Third prize to Mr. Richard Clarkson, of Colwick, for Duke, Captain White, Bagot, Violet Wallers, Heroine, and Triomphe Royale. Fourth prize to Mr. John Edwards, of Holloway, London, for Royal Sovereign, Pilot, Addison, Queen Charlotte, Heroine, and Triomphe Royale. Five other prizes were given in this class.

CLASS E.—SINGLE SPECIMENS IN CLASSES.—*Feathered Bizarres.*—1, Sovereign, Mr. Joseph Godfrey; 2, Surpasse Optimus, Mr. William R. Lymbery; 3, Surpasse Catafalque, Mr. J. Clarke; 4, Catafalque, Mr. Thomas Gibson; 5, Magnum Bonum, Mr. John Spencer; 6, Grand Duke, Mr. Richard Clarkson; 7, Marius, Mr. William Scott; 8, Sphinx, Rev. S. Cresswell. *Flamed Bizarres.*—1, Polyphemus, Mr. John Gibbons; 2, Captain White, Mr. Alexander Jackson; 3, Garrick, Mr. John Edwards; 4, Pilot, Mr. Charles Turner; 5, Augustus, Mr. Thomas Gibbons; 6, Lord Milton, Mr. Charles Spencer; 7, Charbonnier, Mr. William Parkinson; 8, Truth, Mr. John Gibbons.—*Feathered Byblœmens.*—1, Lord Denman, Mr. George Hudson; 2, Bagot, Mr. William Harpham; 3, Lewold, Mr. John Edwards; 4, Britannia, Mr. Thomas Houghton; 5, Roscius, Mr. John Orchard; 6, Unknown, Mr. John Hedderly; 7, Midland Beauty, Mr. W. Parkinson; 8, Midland Beauty, Mr. Alfred Towle. *Flamed Byblœmens.*—1, Alexander Magnus, Mr. C. Turner; 2, Lord Denman, Mr. Charles Spencer; 3, Violet Alexander, Mr. Thomas Gibbons; 4, Princess Royal, Mr. Thomas Gibbons; 5, Gibbons's Salvator Rosa, Mr. Joseph Lakin; 6, Queen Charlotte, Mr. Thomas Houghton; 7, Prince of Wales, Mr. John Spencer; 8, Othello, Mr. John Battersby. *Feathered Roses.*—1, Heroine, Mr. Thomas Gibson; 2, Comte de Vergennes, Mr. David Barber; 3, Nymph, Mr. John Spencer; 4, Aglaia, Mr. Thomas Gibson; 5, Lord Denman, Mr. George

Hudson; 6, Ponceau tres Blanc, Mr. Charles Turner; 7, Seedling, Mr. John Spencer; 8 Fanny Cerito, Mr Joseph Dakin. *Flamed Roses.*—1, Aglaia, Mr. Robert James Lawrence; 2, Camilla, Mr. John Battersby; 3, Triomphe Royale, Mr. John Edwards; 4, La Van Dicken, Rev. Samuel Cresswell; 5, Camillus, Mr. Alexander Jackson: 6, Triomphe Royale, Mr. George Hudson; 7, Seedling, Mr. John Spencer; 8, Lady Leicester, Mr. Thomas Gibbons.

CLASS F.—Seedlings that have never gained a prize before.—*Feathered Bizarre*, Earl Richmond, Mr. John Slater. *Feathered Rose*, Queen Victoria, Mr. Alexander Jackson. *Flamed Rose*, Lady Clifton, Mr. Alexander Jackson.

CLASS G.—SIX DISSIMILAR BREEDERS.—First prize to Mr. Turner, of Slough, for Pilot, Aide-de-Camp, Purple Perfection, Maid of Orleans, Lady Stanley, and Catherine. Second prize to Mr. Thomas Gibbons, for Pilot, Duke of Hamilton, Purple Perfection, Princess Royal, Surpasse le Grand, and Unknown. Third prize to Mr. John Battersby, for Gem, Sylph, Othello, No. 53, Sobraon, and No. 40.

ORNAMENTAL GOURDS.—Noticing that a correspondent requested a descriptive list of the Ornamental Gourds, &c., I here send the description of twenty kinds, which have been exhibited for some time in the window of Messrs. Charlwood and Cummins, Seedsmen, Covent Garden, London. All of them are pretty; some especially so, both in singularity of form and beauty in colours.

No. 1.—Cylinder-shaped, two feet long and nine inches in diameter; a deep orange colour.

No. 2.—Cylinder-shaped, about the same size as the above; a bright lemon colour.

No. 3.—Pear-shaped, one foot long; colour, a pale yellow mottled with green.

No. 4.—Bottle-shaped, ten inches long; a deep, rich, orange colour.

No. 5.—Pear-shaped, two feet long and, at the thick end, one foot in diameter; colour, a light green, with stripes of dark green.

No. 6.—Turban (Turk's cap) shaped, nine inches long; colour, a rich orange, mottled with deep green.

No. 7.—Turban-shaped, eight inches long; white, beautifully mottled with green.

No. 8.—Cylinder-shaped, eighteen inches long and five in diameter.

No. 9.—Turban-shaped, nine inches long; white, with numerous ribs.

No. 10.—Orange-shaped; very large, and a rich deep-orange colour.

No. 11.—Pear-shaped, eight inches long and four in diameter at the thick end; colour, a deep orange, and is beautifully ornamented with a warted, irregular surface.

No. 12.—Bottled-shaped, eighteen inches long; of a deep-green colour.

No. 13.—Bottled-shaped, nine inches long, the surface beautifully warted; colour, a deep orange.

No. 14.—Oval-shaped, eighteen inches long, and ten in diameter at the middle; green-striped and marbled with yellow.

No. 15.—Oval-shaped, and of similar size to No. 14; colour, green-striped and marbled with white.

No. 16.—Orange Gourd. This is the small sized, being the size of an orange, and a rich orange-yellow colour.

No. 17.—Snake Gourd. It is very like a snake in form, growing from three to four feet long; a bluish-green, streaked, marbled with white and cream colour.

No. 18.—Hercules'-club Gourd. It grows from three to four feet long: an olive-green and cream colour. The form is, that it thickens gradually from the stalk to the end.

No. 19.—Turban-shaped, eight inches across; white, *not ribbed,* as is No. 9.

No. 20. Mammoth Gourd. It often grows to the weight of from six to ten stones; colour, a deep yellow.

No. 21.—Babcock's striped. Globe-shaped, five inches in diameter; colour, creamy-white, striped with orange.

No. 22.—Crooked-necked Squash-Gourd. Rather bottle-shaped, eight inches long, with the stalk-end curved; a deep orange colour. The plant bears abundantly as a dwarfish bush.

No. 23.—Victoria Gourd. Globe-shaped, twelve inches in diameter; ground colour, yellow, beautifully marbled and ribboned with deep orange; very handsome.

Most of the above can be trained to larch poles, which have several inches of each branch left, on to which the shoots will cling, and the fruit be supported by; thus grown, they have a pretty appearance in the flower-garden or other situation. A large hole should be made and filled up with equal parts of well-rotted manure and good lightish loam. If the substrata is not stone or gravel, then put in six inches of broken stone, &c., to make a good drainage. The plants will require to be watered liberally, according to size, using pond or rain-water and liquid manure alternately.

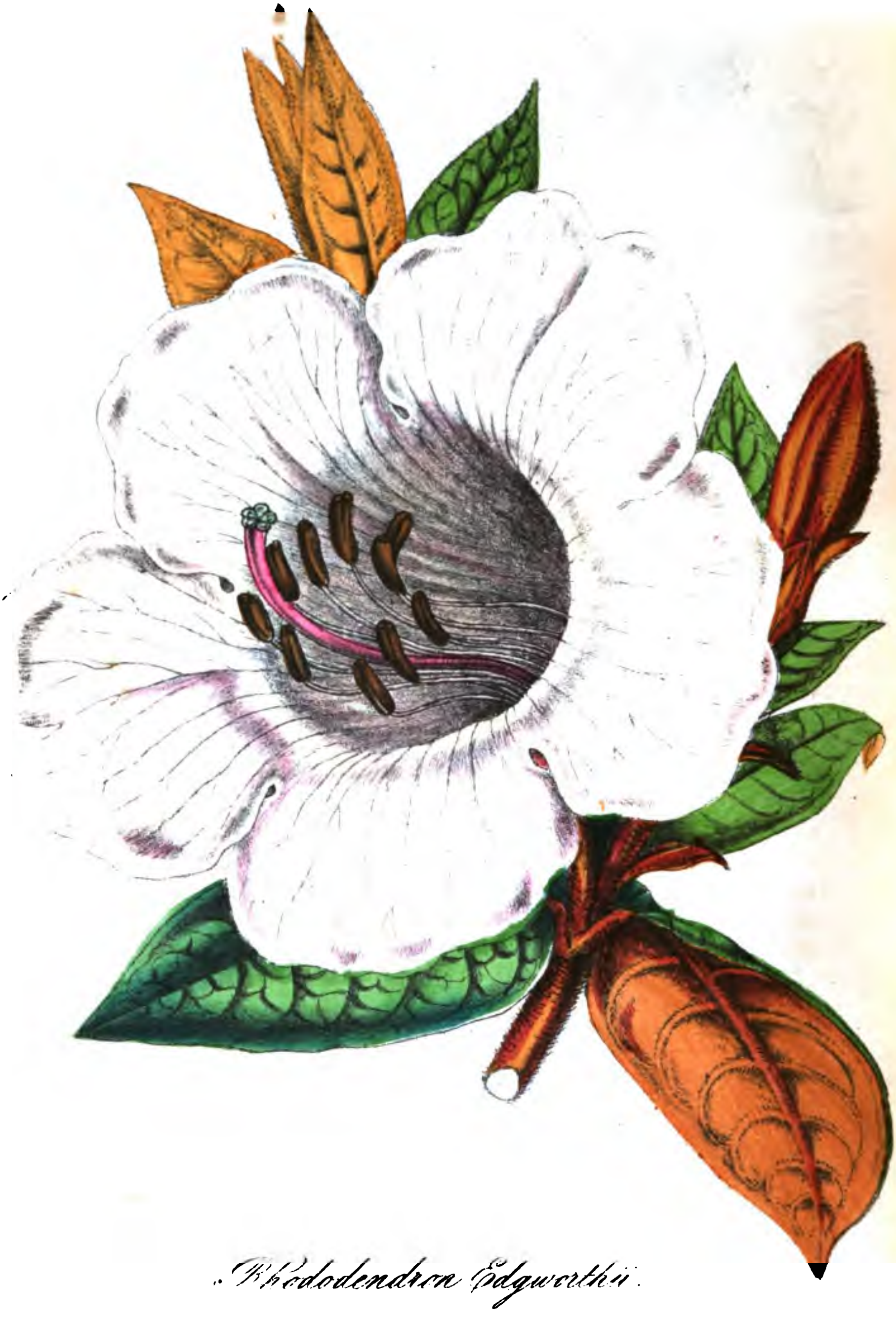
DOUBLE ANEMONES.—The soil for these should be a friable loam, in which gritty particles abound. Decayed turves form an excellent basis for compost. The manure to be added should be vegetable, in preference to animal, and be incorporated with the soil rather than deposited in a layer below the tubers. There are two seasons for planting, namely, the middle of October and the end of January. The early vegetation of such roots as are left in the ground would intimate that the former is the most natural season, and undoubtedly October planted tubers make stronger plants, throw up more flower-buds, flower earlier, and when the season is favourable, mature finer blossoms than those planted in spring. The main drawback is, that the blossoms expand before frosts have ceased, and hence a larger amount of care and protection is requisite. A bed planted the first week in October, 1849, was in beautiful bloom the 12th of May, 1850; and on the 16th of that month the thermometer, only a few yards distant, registered 25°, which would have ruined the blossoms had they not been sheltered. Make a bed of your prepared compost in a sheltered spot in the garden, where the subsoil is pretty well drained. Three feet four inches will be found a convenient width, and at least 15 inches in depth. Protect it from heavy rains, so that it be tolerably dry when required for planting. Rake the surface level, and mark the bed in cross-rows. Plant five roots in a row, which will allow 6 or 7 inches apart. As the tubers are varied in form and size, the hand or a trowel should be used to make the holes, 2 inches deep, and large enough to admit the root to rest evenly on the soil, avoiding much pressure, as the limbs of the tubers are often slenderly attached to the crown, and are easily broken off. Strew over the surface of the bed 2 inches of half-decayed leaves, for a protection against frost; but as the plants come up, attention must be given to liberate the rising foliage; the decaying leaves matted together by rains will sometimes obstruct and injure it. As the leaves and flower-stems protrude through the ground in a double or folded form, they disturb the soil, and the surface around the plants should be eased, broken fine, or pressed, as may appear needful. Should the protecting materials be thought untidy, as the spring advances, they may be carefully drawn off, and a top dressing of short decomposed stable dung and leaf-mould applied, which will be useful in nourishing and sustaining the plants.—*Extract from* Mr. CAREY TYSO'S *Treatise on Culture of Anemones.*

TALL CLASS OF LOBELIAS.—In consequence of a descriptive list of these fine, showy, flowering plants being given in this Magazine, I procured a dozen kinds last spring, and had them planted in a circular bed at the centre of a small garden, the tallest in the middle, and gradually declining to the outer row with the lowest. The bed contained forty-six plants. They were planted in a compost of equal parts of good loam, peat, and well-rotted dung from a mixture of horse and cow manure. The centre-plants are five feet high, and the others in proportion; the outer-row of the blue-flowered are about a foot high, and the whole has been in profuse and splendid bloom since the middle of June up to the present time, October 15th. I gave most liberal watering of liquid manure and pond-water alternately.—CLERICUS.

NEW VARIEGATED DAHLIA, EMPEROR FRANCIS JOSEPH.—This singularly handsome Dahlia has been raised near Vienna, in Austria. The *entire* foliage is variegated; *green* and *pure white.* It retains its constancy, and has not borne a single *self-coloured* leaf. The flowers are double, of a rich red colour. Plants may be obtained next spring in London. Also the new—

PETUNIA STRIATA FORMOSISSIMA.—A most striking variety; each plant produces flowers that are lilac, white, deep rose margined with white, and white edged with rose. It is very neat.

VARIEGATED LEAVES.—If variegation proceeds from a disease in the plants, as is asserted by some persons, the following account of a variegated Holly shows that some plants fatten pretty well in their illness. I cannot ascertain the age of the tree, but the circumference of the stem, one foot from the ground, is 5 feet 6 inches; and six feet from the ground, 4 feet 10 inches: diameter of the branches, 30 feet; and height of the tree, 35 feet. It would have been larger if it had got fair play, but it is much injured by its neighbours, which are two large trees, namely, an ash and an elm.—*P. Mackenzie.*



Rhododendron Edgworthii.

FLORICULTURAL CABINET

DECEMBER, 1853.

"Say what retards, amidst the Summer's blaze,
The *Autumnal bulb* till pale declining days;
The God of seasons, whose pervading power
Controls the sun, or sheds the fleecy shower;
He bids *each flower* His quick'ning word obey,
Or to each lingering bloom enjoins delay."

ILLUSTRATIONS.

RHODODENDRON EDGWORTHII.

THIS very noble Rhododendron is one of the many valuable acquisitions which Dr. Hooker discovered upon the Himalayan Mountains, and recently introduced into England. It is of medium size, with fine large, leathery leaves, and often grows (as Orchideous plants do) as an Epiphyte, hanging pendulous from other trees or rocks. The flowers are of an extraordinary size, produced in clusters of two or three together, and, blooming freely, renders it highly ornamental. It merits a place in every garden establishment, and plants may now be obtained at a very reasonable cost. It would be a charming acquisition suspended in a greenhouse or conservatory, or upon a rockwork in the open air:

"Oh, who that loves with curious eye to trace
Nature's least beauty, or most transient grace,
Can walk the shrubb'ry's cultivated ground
At morn, when flowers their fragrance breathe around,
Nor feel as he inhales the balmy air
His genius and his taste grow more refined,
And Fancy's vista open on his mind."

NOTES ON NEW OR RARE PLANTS.

Begonia biserrata.—It it said to have been discovered in Guatemala, by Mr. Skinner, and it has blossomed in the stove in the Royal Gardens at Kew, a plant having been received there from W. W. Saunders, Esq. It blooms very freely during the whole summer season in the stove, and has a handsome appearance. The plant grows from two feet to three feet high, branching, and the flowers are produced in cymose panicles. Each blossom is 1½ inches across, white and rose. All the Begonias increase readily by cuttings, or division of ground side-shoots; and to keep a stock of healthy blooming plants, a young stock must be provided every year.—Figured in *Botanical Magazine*, 4746.

Campanula Vidallii.—In a previous volume we figured this handsome species, as well as subsequently remarked upon it. A fine figure is given in last month's *Botanical Magazine*. It is a native of the Azores, and was discovered by Captain Vidall, on an insulated rock on the east coast of Flores. The plant is of a shrubby character, having a single main stem, from nine inches to half a yard high, and produces numerous branches, springing from the summit, or nearly so, regularly disposed around, and the ends ere long rise upwards, each terminating in a long and erect raceme of from six to ten large bell-shaped, drooping, *waxy-white*, handsome flowers. Each blossom is two inches long and one across. It proves to be quite hardy; but at the same time flourishes in a frame, or greenhouse, and certainly ought to have a place in every establishment of pretty flowering plants.

Dictyanthus pavonii.—It belongs to the natural order Asclepideæ, a native of New Spain, where it was discovered by Pavon; and in his manuscripts it is described under the name of Stapelia campanulata, in consequence, we suppose, of its flowers so much resembling those of some of the Stapelias. It is a climbing plant, with foliage like the Convolvulus major. Each blossom is about two inches across, spreading bell-shaped, with a fine angled termination, of a pale green, beautifully striped and cross veined, so as to have a handsome network appearance. It is a singular, pretty climbing stove plant.—Figured in *Botanical Magazine*, 4750.

Metternichia principis (Synonyme, Lisianthus ophiorrhiza).—It is a stove shrub, a native of Brazil, where it attains the height of twenty-five feet. The plant, however, is readily kept a low bush, and blooms freely. The flowers are in form like those of Convolvulus minor; but the edge of the blossom is irregularly indented, white, with a greenish tube. The leaves are oval-shaped, three inches long and one broad, leathery. It is in the stove at Kew Gardens.—Figured in *Botanical Magazine*, 4747.

Papaver pilosum. *Large hairy Poppy* (Synonyme, Papaver Olympicum).—A hardy herbaceous Poppy, having perennial roots. The flower stems rise to about two feet and a half high. Each blossom is four inches across, of a bright brick-red colour, each petal having a white spot at the base, giving to the flower a white eye. It is a very pretty hardy perennial, growing compact, and very showy when in bloom. In the flower-garden at Kew, it was much admired the past summer.—Figured in *Botanical Magazine*, 4749.

PLUMIERII JAMESONII, belonging to the natural order Apocynaceæ, which includes the Allamanda, Echites, Nerium, &c.—It is a native of Guayaquil, in South America. The plant in the stove in the Royal Gardens at Kew is four feet high, the stem and branches woody. Each leaf is a foot long and four broad at the widest part. The flowers are produced in terminal cymes, each having from ten to fifteen blossoms, and each blossom, of five spreading petals, is nearly three inches across, of a rich yellow colour. The principal flower-stem, as well as the lesser ones immediately adjoined to the flower, is of a rich red colour, and has a very fine appearance.—Figured in *Botanical Magazine*, 4751.

CERCIS JAPONICA.—Most of our readers know the handsome flowering Judas-tree (Cercis siliquastrum) of our pleasure-grounds; the present species resembles it in the general appearance of the plant; but it is a more *profuse* bloomer, and the flowers of a much more brilliant rosy-red colour, and continue in bloom to a much later period of the season. The blossoms are belonging to what is termed the pea-formed order. The leaves are thick, and much more leathery than those of our common Judas-tree. It is in Mr. L. Van Houtte's Nursery establishment, and merits a place in every pleasure-ground or border of shrubs.—Figured in Van Houtte's *Flore des Serres*.

CHEIRANTHERA LINEARIS.—This beautiful flowering half-shrubby plant is a native of New Holland, and ranks among the Sollyas, Billardieras, &c. It has a neat, delicate, lavender-like foliage, with large fine-petalled blossoms, each being two inches across, of a bright blue colour, produced in terminal heads. It will be one of the prettiest ornaments for the greenhouse, and merits a place in every one.

DRACÆNA NOBILIS.—A most charming plant for the stove, or warm greenhouse. The very large broad leaves are disposed in terminal large heads, like *plumes* of ostrich feathers, striped with bright green and carmine.

ECHITES HARRISONII.—A beautiful stove-climber, of good stiff growing. The flowers are of a beautiful rose, with a yellow tube and throat, and are borne in profusion. It is an admirable plant for *pot-training* round a wire framework, and ought to be in every stove.

VELLOZIA ABIETINA, V. CANDIDA, and V. SPECIOSA.—These are superb plants, from Brazil, having foliage much like the Pandanus, and flowers of the form of the Hemerocallis (Day Lily). A fourth exists, but no name is given by Mr. Van Houtte. Their colours, however, are beautiful blue, rich carmine, bright yellow, and pure white. They are most valuable acquisitions. Mr. L. V. Houtte offers three sorts for 1,000 francs.

BORONIA DRUMMONDII.—The foliage is very delicate and beautiful. The flowers of a rosy-scarlet. It is the handsomest of the genus.

GENETHYLLIS TULIPIFERA.—A most charming plant, being much like a DIOSMA, and the flowers are in form and size similar to a Tulip, and in colours like a Paroquet Tulip. Very ornamental for the greenhouse.

Esterhazya splendida.—It has the appearance of a magnificent shrubby Pentstemon, bearing a profusion of orange-coloured flowers, in long spikes. It flourishes in the greenhouse, and in the open air in summer.

Centaurea depressa.—A beautiful hardy annual, which grows about eighteen inches high. The flowers are produced in profusion, blue with a red centre.

Santolina virida.—A neat, hardy, herbaceous plant, two feet high, blooms profusely, and each flower is an inch across, of a yellow-green; neat and pretty.

Pelargonium King Rufus.—This is a charming bedding variety, probably a seedling of the Diadematum section. The flowers are scarlet, and produced in profusion, each blossom two inches across. The plant is a foot high, bushy.

Tacsonia ignea.—A native of Peru. The flowers are of a brilliant fiery-red colour, very showy. It is a valuable acquisition to our greenhouse climbers.

Spiræa Reevesiana flore pleno.—The flowers are a full double, white. A hardy shrub, meriting a place in every shrubbery.

Sciadocalyx Warscewiczii.—It belongs to the *Gesnerads*, bears a large umbel of flowers, of a beautiful red, and the yellow throat spotted with purple. Very handsome.

Clematis patens (or azurea) *var.* **Sophia** (Synonyme C. cœrulea *var.* Sophia).—This variety has flowers of similar size to those of C. cœrulea grandiflora, nearly six inches across. Each blossom has eight petals, blue, with a broad green stripe up the centre. It is very pretty, and as hardy as the original species.—Figured in Van Houtte's *Flore*, 852.

Camellia Archduchesse Marie.—The flower is large, perfectly imbricated, fine outline, and deep. It is of a rich cherry colour, and each petal has a white stripe up the centre.

Diervilla amabilis (Synonyme, Weigelia amabilis).—This fine species is a more robust shrub than the Weigelia rosea, blooming in greater profusion. The flowers are of similar form, but larger, and of a brighter rosy-carmine colour. It is quite as hardy as the other species, and ought to be in every shrubbery. It is an excellent plant, too, to force for winter bloom.

1. The old, hardy, branching, tall shrub of our pleasure-grounds, hitherto known as Lonicera Diervilla, and Diervilla lutea, is in future to be called *Diervilla Canadensis*. Its flowers are small, of a greenish-yellow.

2. The one hitherto known as Diervilla versicolor, Weigelia Japonica, and *Weigelia rosea*, to be called *Diervilla Japonica*.

3. *Weigelia amabilis* to be *Diervilla amabilis*.

4. *Weigelia Middendorfiana* to be *Diervilla Middendorfiana*. The flowers are produced at the axils of the leaves, in clusters of three or four together, similar to the D. rosea, of a sulphur-yellow colour.

The following are not yet introduced into our own country:

5. *D. floribunda.*—A large-growing, branching shrub. The flowers are produced on the side-shoots, in terminal corymbose-like heads, funnel-shaped, having five divided; margin, purple. It inhabits the mountains of Japan, blooming very profusely, producing a fine appearance.

6. *D. hortensis.*—A vigorous-growing, branching shrub, a native of China. Flowers tubular, funnel-shaped, red or white, being variable, and produces a fine effect.

7. *D. grandiflora* (Synonyme, Weigelia coræensis).—A tall, branching shrub. The flowers are produced in terminal branchey heads, tube-shaped, of a rich rose colour, very handsome. A native of Japan.

8. *D. florida.*—Grows in the valleys in Northern China. It is a tall, branching shrub. The flowers are produced singly, funnel-shaped, of a purple colour; but often are of various colours. It is exceedingly ornamental.

CISSUS HETEROPHYLLA FOL. VARIEGATA.—A climbing-plant, with smallish foliage, in form of those of the Vine, beautifully variegated with white and green, and the stems are tinged with red. It is of medium growth, and a beautiful plant to train round a wire framework, or up a pillar in the greenhouse.

PERENNIAL DELPHINIUMS, AND THEIR VARIETIES.

BY MR. JOHN BURLEY, OF ACACIA NURSERY, ST. JOHN'S WOOD, LONDON.

THIS charming herbaceous plant, with its numerous varieties, now amounting to about sixty named kinds, is one of the best that can be used for beautifying the flower-garden; the length of time they are in bloom, combined with their varied and brilliant colours, makes them very desirable. The dwarf varieties, when grown in a bed, have the best possible effect, and when mixed with other plants in the beds or borders, they have a very interesting appearance. The taller perennial varieties grow from six to eight or nine feet in height, and are very suitable for planting at the back part of a border bounding a flower-garden. They thrive and flower well in any rich mould. The varieties which are best suited for bedding are—

HENDERSONII, colour, deep azure blue, with a white eye, growing from two to three feet high. It may be regarded as the prettiest of the tribe yet in cultivation, and flowers from June to October very profusely. If planted about twenty inches apart, they will, in the season, spread and form one mass of their beautiful bloom.

QUADRICOLOR is another dwarf variety, the flower being, as its name implies, a mixture of colours, viz., a light blue, lavender, and a shading of light rose; it is a free-blooming, fine variety for bedding. Its height is from one to two feet.

WHEELERI is a *beautiful light* blue, free-blooming and handsome. It is a medium-sized, double variety, of the *bee* kind.

AZUREA GRANDIFLORA is another *light* blue Delphinium of the *bee* kind; it flowers very freely, and has a nice effect.

Grandiflora maxima is a *dark* blue; a large flowering variety, suitable for borders.

Beauty of Charonne is a good flower, resembling *Hendersonii*, but the flower is smaller, and its habit is not so free-flowering.

Magnificum, a capital variety for a bed; colour azure blue, wth a light eye; habit free-blooming, with medium-sized flowers; grows from two to three feet high.

Azureum plenum, a pretty, light blue, double flower, and a free bloomer.

Barlowii is a double flower, of a dark blue colour; a good, free-blooming variety for the border.

In addition to the above there is a great variety of the *tall*-growing section, which deserve attention; they should be grown in every garden, however small. They are easily increased by division of the roots. When a plant attains a large size, it may be taken up, parted, and replanted immediately, or kept in pots in a cool frame during winter, and turned out into the borders or beds where they are to flower the ensuing season. A circular bed, with the tallest growing in the centre, and gradually declining to the dwarfest, for the outer row has a singularly pretty appearance, and will be ornamental throughout the summer.

THE PASSIFLORAS.

BY A NOBLEMAN'S GARDENER, IN STAFFORDSHIRE.

The Passion Flower ranks among the most interesting flowers, and is certainly deserving a notice, as well, too, for its great beauty and for its docility in cultivation. This genus, in my opinion, offers very great inducement to the experimental cultivator, from the facility with which hybrids may be obtained from it a subject; of the greatest interest to us, and one which I think well deserving the attention of every gardener. We are all well acquainted with the vast improvements that have been made in the class of flowers denominated florists' flowers; and reasoning from analogy, why should not the same or similar improvements be extended to other plants and flowers with as great success as has attended the trial with those. Keeping this in mind, I intend from time to time, as opportunity may occur, to present to the notice of the readers such plants or families of plants as may appear to offer the most reasonable chances of success; and with this view I begin this article on the Passion Flower.

It has already been made to produce several hybrids of the greatest beauty, well repaying the trifling trouble occasioned. Much, very much, may yet be done with this genus, not only in the improvement of the flowers, but also towards acclimatizing some of the best varieties. It is the type of the natural order Passifloreæ in the Jussiean system, and it is placed in the class Monodelphia, order Pentandria, of that of Linnæus; it is so called on account of its being supposed to represent in the appendages of the flower the passion of the Saviour. The genus consists entirely of climbers; some species are odoriferous, others bear edible fruits, and all of them very handsome. I shall here mention a few of the most prominent; first remarking that, with only three or four exceptions, they are all equally suitable ornaments either of the conservatory or of the stove, that is when grown solely as ornaments; but when grown for the fruit, which of many of the species is very delicious, or for the purpose of hybridizing, a stove or very warm greenhouse is necessary. Most probably the latter would be found to answer, as they bloom at a season when the greater number of plants are removed to other situations, and so would allow of keeping the house warmer than is ordinarily done.

The soil they most delight in is a good sound turfy loam a year old, enriched with well-rotted hotbed dung, and a sprinkle of white sand; but must not be allowed to grow too luxuriantly, if seed is an object sought; they may be grown in very large pots or tubs, though to plant them in the border of the house is by far the most preferable method. The plants should be occasionally syringed during the growing season to remove dust and prevent the approach of red spider, though they are but little subject to the attacks of any insect if kept in anything like a healthy state. The hardier species are those we should choose for the purpose of impregnation, as likely to impart a hardy constitution to the hybrid; they are:

P. *c*œrulea; P. *a*ngustifolia; and P. *c*hinensis.

Of the other and more tender species the *finest* are:

P.*a*mabilis, brilliant scarlet.
*c*occinia, scarlet.
*c*uprea, orange.
*m*aliformis, red, white, and blue.
*a*lata, blue, red, and green.
Loudonia, red and purple.
*i*ncarnata, rose and pink.
*l*aurifolia, red and purple.
*c*œrulia grandiflora, blue, red, and white.
*q*uadrangularis, red, white, and green.
P.*r*acemosa, red.
Kermesina major, blue, red, and green.
*p*icturata, purple.
*s*erratifolia, pink and green.
*c*erulea racemosa, blue and red, and purple.
*e*dulis, white.
*D*ecaisneana, crimson, blue, white, and red.
*p*hœnicea, crimson.

There are many others, but this selection will suffice for either ornament or improvement. P. cerulea racemosa is an hybrid, raised by Mr. Milne, of Fulham, and was a beautiful acquisition at that time; it is well suited for a greenhouse climber, and will in some places stand the severity of our winters in the open air. Alata cerulea is another hybrid of great beauty, obtained by Mr. Masters, of Canterbury, from seed of P. alata of the West Indies, impregnated with P. cerulea. Now though an hybrid obtained from a cross between a hardy species and one that is tender does not appear to be strong enough to withstand our winters in every open-air situation, yet there seems to be every probability of a successful issue if the hybrid so obtained was again crossed with a hardy species. That those hybrids will seed we have had proof, and we know a successful attempt has been made with a similar cross in the case of the Rhododendron; there, after several trials with crosses from arborea and hardy species, none would stand the winter till those hybrids were again impregnated with hardy kinds, it seeming to require two removes from the tender parent before the robust constitution required could be obtained. Such I imagine to be the case with passion flowers; but independent of this increase of outdoor varieties, which we consider to be the most desirable point, from their peculiar adaptation for the covering of arbours, walls, and other ornamental spots, and from the great addition that would then be made to the enjoyment of their beauty and fragrance; yet independent even of this, much may be done among those which are and would still continue to be tender. I am aware that several fine varieties have recently been raised on the Continent, and having most beautiful distinct flowers, encourages me in soliciting my floral friends, in my own country, to equal exertions, well assured such will be amply repaid; and how pleasant and interesting it is to watch the process, and finally behold the beauteous reward! I certainly think no collection is complete that does not contain two or three species at least, though I would not have more than ONE OF A SORT in either stove or greenhouse; there is always some spot that may be found to which they will contribute a great share of beauty.

Having mentioned raising them from seed, it will be expected that I state the mode of doing so; it is this:—When the fruit is ripe, the seeds should be taken from the pulp and dried in a piece of soft paper; if there is a stove in the establishment they may be sown directly, but if no place of the kind is at hand to keep them in through the winter, it will be better to defer the sowing till the following March; then sow in deep pans, using a light though rich loam to sow in, place the pans in a pit or frame with a medium heat, say about 65 degrees, give them a gentle watering when first placed there, and repeat it when necessary; but they will not require any till they appear above ground; air must be given to prevent them drawing up weakly, and when about two inches high remove them to a warm shelf, near the glass in the greenhouse; let them remain here till June, when they may be placed in the open air; let them remain out till the plants are housed for the winter, observing to keep them moist; when taken into the house again they should be potted off if they seem to require it, but if they are not too thick they had better remain undisturbed till the spring, when they may be potted into large pots or turned into the borders of the house. I should not advise placing any of them permanently in the open air till they have bloomed, or, indeed, till there were duplicates of any that might appear to possess desirable qualities.

Several species are well worth cultivating for their fruit; the first of these eatable sorts is P. maliformis. The fruit of this is about the size of an apple, of a yellowish colour when ripe, and contains a very sweet pulp, which is the eatable part in all of them. This is the Granadilla of the West Indies; when grown for fruiting, it should be planted in the border of a stove, and trained upon a trellis near the glass: a good crop may be expected the second season after planting.

P. quadrangularis is a very free fruiting kind; the fruit is pale green, when ripe is larger than that of maliformis; the flavour of it is luscious and gratefully acid. It should be planted like the other in the border of a stove, and trained on a trellis, or against the back wall, and should be freely pruned, as from its luxuriant growth and the size of the leaves some difficulty is sometimes experienced in ripening the fruit; we have succeeded in obtaining fruit from plants grown in pots, though the quantity is necessarily less.

P. laurifolia is rather more difficult to fruit; but when in a favourable situation the fruit is very fine: it is about the size of an egg, yellow when ripe, and when fit for gathering is dotted over with small white spots; the flavour is peculiarly aromatic, with a very pleasant acid; it should be grown close to the glass, and the warmest part of the stove allotted to it.

P. edulis is much easier to fruit than either of the foregoing; it will succeed when planted against the back wall of a warm greenhouse, and with very moderate attention produce a plentiful crop of very fine flavoured fruit. It should be kept moderately thin, but yet does not reqnire so much pruning as some of the other species. The flowering of all the species commences in May and continues till September, the fruit setting the whole time; this may be assisted by applying the pollen to the stigma with a feather, and thus ensuring a crop.

P. incarnata may be fruited in a stove with great ease; the fruit when ripe is of an orange colour, the pulp or juice is yellow, and very sweet. The seedlings of this species produce fruit the first season, which would make it a desirable kind for the purpose proposed in the beginning of this article.

The winter treatment of these plants is nearly the same: let them be grown for what purpose they may, the heat applied should be lowered sufficiently, and a proportionate decrease in water, so that the soil should be barely moist, in order to stay the growth, and give the plants about a ten weeks' rest, when the plants should be *closely pruned*, and they will be found to produce finer shoots, and more freely from the old wood than from that which is one or even two years old. They should be kept dormant till the beginning of March. In conclusion, I may remark that to those who are fond of rare fruits for the dessert, this genus will be found useful, as, in our opinion, if allowed the end of a low house, and trained crossways of the roof, an abundant supply of fruit will always be ensured; this is certain to be the case with *edulis*, *alata*, and *alata superba*; and when in full fruit are most interestingly ornamental, with their hundreds of green and purple fruit. Small plants trained round a wire circular framework bear numerously, and are very pretty. I have seen *plants* in full fruit placed on the table with the rest of the dessert, and the ripe fruit plucked and eaten on those occasions.

THE BOTANICAL RAMBLES OF A BRITISH BOTANIST, DURING A SOJOURN IN NORTH AMERICA.

BY AMICUS, OF NOTTINGHAM.

PERHAPS it will be interesting to some of the numerous readers of your very useful Magazine to have some particular descriptions of a few of the best wild plants of North America, with remarks on the situation and soil they grow in. I have therefore much pleasure in forwarding a detail of Botanical Rambles during my sojourn in that country; and I hope it will not only be interesting, but likewise of practical utility.

I first saw *Justicia pedunculata*, growing in abundance in the ponds and swamps of the Island of Montreal. It is a very pretty aquatic; the flowers are of a lilac colour, and borne in profusion. *Monarda didyma* (or Kalmiana) grows plentifully in the northern part of the States of New York and Pennsylvania, in a rich moist soil, and forms a splendid plant, its rich scarlet heads of tube-shaped flowers being very showy. It deserves a place in every garden. Another scarce plant is the *Monarda punctata*, which grows in the dry sandy fields of New Jersey. I have never seen it in cultivation; but its yellow and brown blossoms are very interesting and pretty. *Monardu hirsuta* grows in moist, rich, shady woods in Pennsylvania, near to Lake Erie. The flowers are purple, but it is not of much interest. The first and most handsome of the Monardas is *M. Russelliana*, which grows in the sanday beach of the Red River in Arkansas; the flowers are white, and have a chaste, elegant appearance. Perhaps these remarks may come under the notice of some person who is fortunate enough to possess it; and if the individual would oblige me by giving the Editor his or her address, I should be glad either to exchange some other rare plant for one of it, or purchase one. Here is the *Euphorbia Ipecacuanka*, common in the sandy fields of New Jersey, sometimes buried in the sand. The roots run a great depth, and are said to be of equal quality to the true Ipecacuanha. *Iris cristata*, too, grows luxuriantly in the dry woods of Ohio; its flowers are of a pretty pale blue. The *Iris tridentata*, in the Island of Anticosti, flowers deep blue; and the *Iris prismatica*, in the sphagnum swamps of New Jersey, at the Quakers' Bridge; and the *Dilatris tinctoria*, with its pretty pink flowers, is a companion to it in the swamps. The glittering *Hetranthera graminea*, with its pretty blue flowers, grows profusely in the town of Montreal. Between Queenstown and the Falls of Niagara, I saw *Lichea minor* in dry sandy woods, having pretty white flowers. *Swertia deflexa* grows among rocks, in the woods at the Bay of Gaspe; it belongs to the order of Gentians. The *Frasera Walterii* belongs to the same natural order, with green and yellow blossoms. I saw it in the oak woods of Ohio, near Lake Erie, growing in a strong clayey soil. *Mitchella repens*, too, a pretty alpine, was frequently seen growing at the roots of pine-trees and in dry vegetable mould and sand. The *Houstonia cœrulea*, in large patches of beautiful blue flowers, often gratified my sight, growing very freely in moist soil, at Halifax and other places; and *Houstonia purpurea*, not quite so showy as the previous species, but pretty, in dry sandy woods at the Bay of Quinte, in North Carolina. *Ilex Canadense*, a neat holly at Montreal. In dry sandy woods, near York, in North Carolina, I perceived *Batschia Gmelina*: it is a pretty plant, belonging to the Boraginacea order, bearing neat yellow flowers. While at Montreal I saw the *Cynoglossum amplexicaule*, also of the Borage order, having blue flowers, in dry rich soil on limestone rocks. The *Primula pusilla*, having pretty purple blossoms, was growing freely in vegetable mould and sand, which had too a mixture of gravel in it, at the edge of the St. Lawrence river, opposite Quebec. It sends out runners under ground, by which young plants are produced. I may next state that the *Xylosteum ciliata* grows in rich moist soil in shady woods about Montreal; also *Xylosteum oblongifolia* (belonging to the Honeysuckles), in a *swamp* at the same neighbourhood. The former has greenish-yellow flowers, and the latter are white, but neither of them of much beauty. Likewise *Triosteum perfoliata*, of the Honeysuckle order, dark-red blossoms, in dry soil on limestone rocks about Montreal. *Euonymus obovata* (Spindle tree), pink-coloured flowers, grows vigorous in vegetable mould in thick shady woods on the south side of Lake Erie.

I observed in New Jersey that the *Viola pedata* grew in the greatest perfection in dry sandy soil, its profusion of blue blossoms being very showy. *Viola lanceolata*, too, in moist soils about Halifax; and *Viola primulæfolia* in very dry sandy soils about Halifax and Lake Simcoe: the flowers are a pale-blue, and the plant is quite ornamental. The V. blanda, with its showy white flowers, is much more beautiful. Here the very pretty *Claytonia Carolineana* grows luxuriantly in vegetable mould about Montreal. It belongs to the Portulacea order, and the blossoms are of a pink colour. *Asclepias verticillata* grows about Niagara, in dry arid soils, its flowers being white and green; and *A. tuberosa* is one of those splendid plants which adorn the fields about the mighty falls of Niagara; but to grow it to its highest perfection it requires a dry sandy soil and warm situation; flowers of a bright-orange colour. The splendid *Gentiana crinita*, with its rich blue flowers, grows in moist vegetable soil on the Table Rock, Niagara. Another superb plant is the *Gentiana saponaria*; its blue flowers are very showy. It grows on the edges of woods about Montreal, and is most luxuriant when growing in leaf-mould, rotten sticks, and sandy loam. I must mention, too, the *Gentiana angustifolia*, a fine low-growing species, with blue flowers; it flourishes in swamps in New Jersey. *Gentiana ochroleuca*, and *G. amarella*, both bearing purple flowers, grow in dry soils; the former in Ohio, and the latter near Lake Simcoe. There is a celebrated plant which is particularly deserving notice; it is the *Panax quinquefolia*, the root of which is the *Ginseng* of the shops; the flowers are of a light yellow. Also the *Panax trifolia*, with green flowers, grows luxuriantly in shady woods about Montreal. Here, too, grows the curious *Parnassia carolina*, bearing white flowers (of the Saxifrage order), flourishing on the edges of swamps about Montreal. The singular *Drosera filiformis* (Sundew), and the curious *Cynostilis Americana*, in swamps in New Jersey. The *Lilium Philadelphicum*, with scarlet flowers, in dry sandy soil about Montreal. *Uvularia grandiflora*, having purple flowers, in rich shady woods; and *Helonius asphodelioides*, in sandy pine woods in New Jersey. *Trillium pictum*, flowers red and white; T. erectum, flowers brown; and T. grandiflorum, flowers white. The first grows in dry mould on sand, and the two others in rich mould. *Epigæa repens*, in mould and sand, as other heath-like plants do; its pretty white flowers are much admired. *Pyrola asarifolia,* flowers green and yellow; and *P. uniflora,* white flowers; grow in shady sphagnous swamps. *P. maculata,* white flowers; and *P. umbellata,* pink flowers, in dry vegetable soil. We now come to *Silene regia,* and truly it is *Regia* (Royal) to all who see its large masses of crimson flowers. It flourishes in a dryish stiff loam, and rather shady situation. The *Verbena stricta,* with pretty blue flowers, requires a sandy soil.

Bartisia (now Euchromea) *coccinea.*—Its scarlet and yellow heads of flowers are very showy. It grows in fields and sandy woods. *Lobelia cardinalis* grows fine in moist shady places and swamps. *Petalostemum violaceum,* of the Pea-flowered order, a very pretty herbaceous perennial, bearing violet-coloured flowers; grows in dry sandy loam. *Eupatyrium cœlestinum,* is a fine species, bearing a profusion of blue flowers; it grows in rich alluvial soil. The *finest Aster* I saw was, *A. concolor,* bearing large purple flowers, growing in dry sandy woods, in New Jersey. *Cristaria coccinea,* belongs to the Mallow order, bearing scarlet blossoms, very showy, and adorns the vast plains of Missouri. I cannot omit the *Œnothera speciosa;* it is a most charming plant, its numerous large white flowers are very pretty. Why is it not more cultivated? It should be in every garden. *Pentstemon Bradburii* is as fine as any; flowers large, and of various colours. *P. Murrayanum* looks, by far, the finest species. I mean in Texas, where it makes a splendid appearance, growing six or seven feet high, having about thirty lateral floral branches, in addition to the long centre spike, and each has from four to eighteen blossoms, of an orange-scarlet colour. It flourishes in rich, sandy loam. The *P. cobæa,* bearing large blue and white flowers, grows fine in a calcareous soil. The following flourish in many places: *P. glabra* is a fine one, bearing dark purple flowers. So is *P. erianthera,* with large purple blossoms, for the size of the plant; and *P. gracilis* is beautiful, with a profusion of blue flowers. The *Lupinus villosus* is by far the finest I saw, having long spikes of pinky-red or crimson flowers; but it is shy of cultivation. There are several splendid *Rhexias,* well worth introducing as garden-ornaments, belonging to the Melastoma order, having flowers of blue, white, purple, &c.

Of late there have been but few plants introduced from America. Why is it that we have not a collector of plants there, when there are from other countries? I am confident that no country can boast of finer ornaments than those that are in America (vast numbers of which have not been introduced into Great Britain); my own observations whilst there fully assure me of the fact.

I hope the extract here given, from remarks made during my numerous excursions, will not only be interesting, but *useful,* inasmuch as the particular *soil* and *situation* the plants flourish in I noted down at the time I saw them, and which may serve as a guide to those who possess such kinds of plants as above noticed, to cultivate them so as to be successful in blooming them satisfactorily. I purpose continuing the subject in future Numbers, should this communication be approved. At all events, I hope it will tend to encourage a much more extensive cultivation of this class of hardy plants in my own country.

OBSERVATIONS ON BUTTERFLIES.

BY MR. PETER MACKENZIE, OF WEST PLEAN, NORTH BRITAIN.

THE Cabbage butterfly, and others belonging to the same group of insects, may be seen at the accustomed season surveying their favourite plants and flowers in the gardens; and although they often do much injury in the caterpillar state to various species of plants, especially the Brassica family, in the autumn months, yet, as one remarks, there are but few individuals who have not been struck with the resplendent and gorgeous colours of some of the butterfly tribe ranging through the flower and kitchen-garden. Where is the human being who can behold even the most simple and unadorned of the species, "the common cabbage butterfly," without associating with it "the scenes of his or her childhood, so dear to the heart," when chasing the wayward roamer from field to field? Who can see the pupa of one of these insects without feeling anxious to become acquainted with the extraordinary process by which so singular a production is transformed into an animal of such beauty? The changes of an animal form produced by the progressive expansion of the enclosed organs of the body, and the successive shedding of the outer case or skin, are in no instance so striking or so extraordinary as in this group of insects. These changes or metamorphoses, as they are commonly but incorrectly termed, have been a favourite theme to the divine and the poet, and a most attractive subject of research to the naturalist. The transition of the humble group to the "gorgeous image" is the subject of the following beautiful passage in the classical work of Kirby and Spence:

"Were a naturalist to announce to the world the discovery of an animal, which for the two years of its life existed in the form of a serpent, which then penetrating into the earth, and weaving a shroud of pure silk of the finest texture, contracted itself within this covering into a body without external mouth or limbs, and resembling, more than anything else, 'an Egyptian mummy;' and which, lastly, after remaining in this state without food and without motion for three years longer, should at the end of that period burst its silken cerements, struggle through its earthy covering, and start into day a winged bird, what think you would be the sensations excited by this piece of intelligence?"

The subterraneous locality of the insect in its passive state, and the silken shroud, are indeed less applicable to the butterflies than to other insects; but the circumstances attending the transformations of these beautiful objects are not less remarkable than those of beetles and moths.

In its subsequent and final character the butterfly luxuriates on the exquisitely elaborated juices of the flower, and has the power to raise itself above the dull earth, and to transport itself through aërial space, as the readers hereof have often viewed it, lively with delight in the flower-garden,—

"Where he arriving, round about doth fly
From bed to bed, from one to other border,

And takes survey, with curious busy eye,
Of every flower and herb there set in order.
Now this, now that, he tasteth tenderly,
Yet none of them he rudely does disorder;
Never with his feet, their silken leaves deface,
But pastures in the pleasures of each space."

We may conclude by quoting the last verses of a poem called "The Butterfly's Birthday."

"Ah, where were once her golden eyes,
Her glittering wings of purple pride?
Conceal'd beneath a rude disguise,
A shapeless mass to earth allied.

"Like thee, the hapless reptile lived,
Like thee he toil'd, like thee he spun,
Like thine, his closing hour arriv'd,
His labour ceased, his web was done.

"And shalt thou, number'd with the dead,
No happier state of being know?
And shall no future morrow shed
On thee a beam of brighter glow?

"Is this the bound of power divine,
To animate an insect frame?
Or shall not He who moulded thine,
Wake, at his will, the vital flame?

"Go, mortal! in thy reptile state,
Enough to know to thee is given,
Go, and the joyful truth relate,
Frail child of earth, high heir of heaven."

REMARKS ON THE CULTURE OF THE ORANGE-TREE.

BY M. A. BRUCE, ESQ., OF EDINBURGH.

How lovely in appearance, when in bloom or laden with ripened fruit, and how exhilarating to inhale the grateful perfume which the blossoms shed around! Mrs. Smith speaks of the orange-tree in her lines addressed to the humming-bird; a beautiful little creature, which, when stripped of its plumage, is not bigger than a bee; and, like the bee, it delights in hovering over the sweetest flowers, and sipping their juice, without doing them the least injury by its visit. Mr. Lambert, in his Travels in Canada, says, "that they may be seen there in great numbers, and that their plumage is as beautiful as that of the peacock." It is frequently called the bee-bird:

"There, lovely, bee-bird! may'st thou rove
Through spicy vale, and citron grove,
And woo and win thy fluttering love
With plume so bright;
There rapid fly, more heard than seen,
Mid orange boughs of polish'd green,
With glowing fruit, and flowers between
Of purest white."

Captain Stedman, speaking of Paramaribo, says that its streets, which are perfectly straight, are lined with orange, shaddock, tamarind, and lemon-trees, which appear in everlasting bloom, while at the same time their branches are weighed down with the richest clusters of odoriferous fruit. He was in the habit of purchasing forty oranges for sixpence: yet plentiful as they were, the orange is not a native of the country, but was originally imported there from Spain and Portugal. These trees are extremely beautiful, and adorned with their fragrant blossoms throughout the year. "As for the fine fragrance that is diffused through all this colony," says the Captain, "by the continued groves of orange-blossoms, and odoriferous fruits that it produces, it can be more easily conceived than described." In Surinam, the parlour floors are always scoured with sour oranges cut through the middle, which gives the house an agreeable fragrance: the negro girls, taking one-half in each hand, keep singing aloud while they rub the boards.

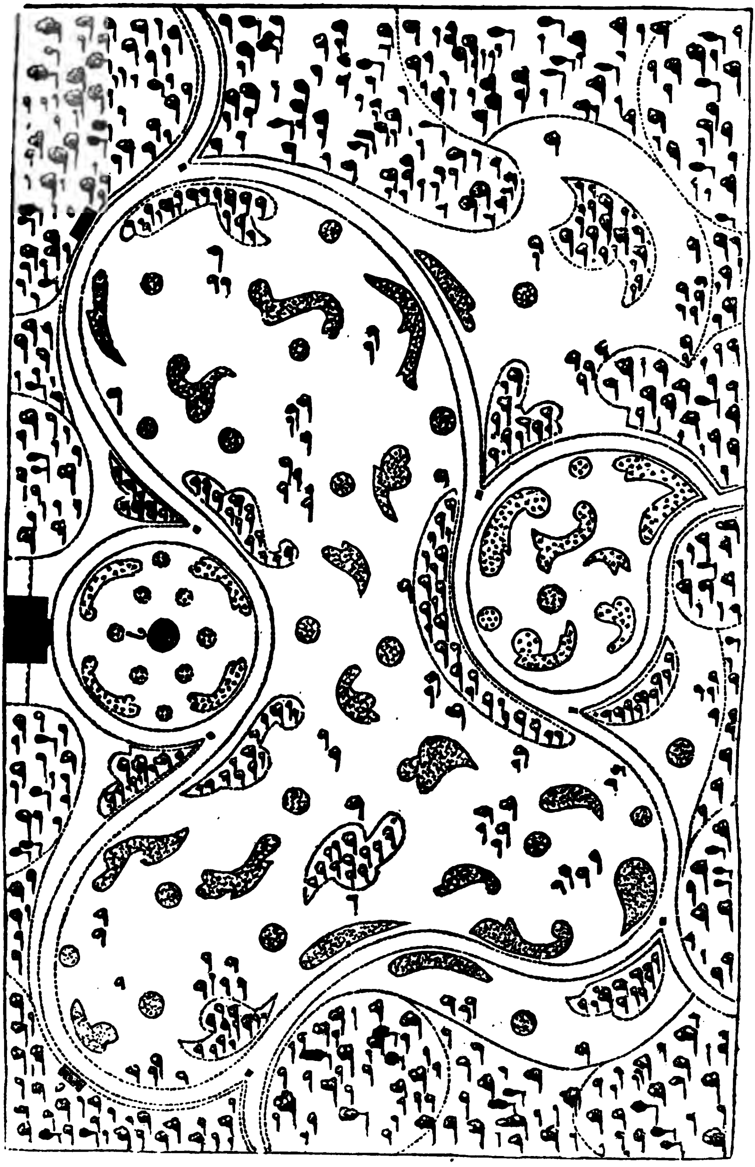
Speaking of the negro, Captain Stedman says: "His teeth are constantly kept as white as ivory; for this purpose he uses nothing but a sprig of orange-tree, bitten at one end until the fibres resemble a small brush; and no negro, male or female, is to be seen without this little instrument, which has, besides, the virtue of sweetening the breath."

Thunberg speaks of a curious Lilliputian kind of orange, growing in Japan: "A very small species of orange (*Citrus Japonica*) is frequently cultivated in the houses, in pots. This shrub hardly exceeds six inches in height, and its fruit, which is sweet and palatable, like China oranges, is not larger than an ordinary cherry.

"In visiting the principal forcing nursery establishments around Paris and other parts of the continent, during the spring of 1852, and the present one, I endeavoured to ascertain the best mode of culture. The following are essential:—There must be a very free drainage of broken pot, over which some pieces of rough turfy soil be laid. The compost to be turfy loam, well enriched with one year old cow-dung, the two being mixed up for six months before using. At the time of potting the soil must not be sifted, but chopped, and a sprinkling of pieces of charcoal added. During the growing and blooming period, the pots are plunged in tan, or stable dung, having a covering of tan at the surface to prevent the unsightly appearance of the dung. In one case a neat covering of green moss had been supplied, which looked well. Rain-water of a tepid temperature, and manure water too, is used; but only just sufficient to keep the soil moist, not wet. The plants are frequently syringed over head, morning and evening, in dry weather, or when the house is of moderate heat. In order to prevent worms entering the hole at the bottom of the pot, the pot in which the plant is growing is cased in another pot, which is a size less, and on its being placed within it, the bottom of the plant pot does not descend within four or six inches of the case pot: this allows the water to drain away properly, admits the warmth to rise, and entirely precludes the worms entering the plant pot. After the orange-tree has ceased blooming a season of rest is allowed, and about a month before the time of exciting them to grow again they are re-potted, carefully putting away the exterior soil, to admit a due proportion of new compost. It is necessary, at the season of rest, that the plants are not supplied with bottom heat, but kept in a greenhouse, or similar habitation, having freedom of light.

PLANS OF FLOWER-GARDENS.

No. 1.—By Mr. Major, Knowsthorpe, near Leeds.



This is an ideal plan of a flower garden, arranged in the English or natural style; it is of considerable extent, drawn on a scale of sixteen yards to an inch, and is suitable for a country residence. A greenhouse is shown, with wings of ornamental trellis-work attached, in which greenhouse plants are to be placed in summer-time; or, in place of such wings, two small plant-houses, or a pheasantry and aviary may be substituted. *b* is a fountain, and *c c*, are covered seats. The beds of various shapes, are proposed to be furnished with perennial and annual flowers exclusively, and the round beds to be composed of masses and groupes of bedding-plants, and to be edged round with terra-cotta or wire basket-work. The other beds to be furnished with choice evergreen and rich flowering shrubs, not only as affording interest and beauty in themselves, but also in producing varied forms and intricacies in the lawn and landscape. The square marks at the angles or junctions of the walks represent places for vases, statuary, &c.

In the shrubbery, dotted lines indicate portions which may be laid down in grass, to have here and there expanses or glades of lawn, as well as to give any desirable views.

HOW TO BLOOM THE ACHIMENES PICTA, AND GESNERA ZEBRINA ALL THE YEAR.

BY MR. JAMES HENDERSON, ASHROYD-HOUSE, FLINTSHIRE.

Achimenes picta.—Among the various species of this genus none are better deserving of notice than this one, whether for the richness of its velvety green foliage, traversed with pale, greenish white, or for the beautiful streaked and spotted flowers it sends forth when under good cultivation. By the following method of treatment I have had plants with numerous side shoots, three feet high, bearing an immense number of their beautiful flowers, and by having a succession, starting a portion at following periods, I have a display of these charming plants *all the* year; but though handsome at all times, they are especially so through the winter and spring months. It is easily increased by the scaly tubers of the stem, or may be propagated by the leaves, like a Gloxinia, also by division of the underground tubers. The last, however, is by far the most preferable, on account of their producing stronger plants. The leaves, when taken for cuttings, may be planted in a compost of two-thirds sand and one-third peat-soil, covered with a bell-glass, and placed in bottom-heat. Water must be given sparingly; the leaves are of a very succulent nature, and if kept too damp would soon go off. As soon as they have made sufficient roots (which they will do in about six weeks), pot them off into small pots, place them in bottom heat and they will soon make good plants fit for forcing. When the tubers are to be started, put them in pots or pans of moderate size, say from one foot to fifteen inches in diameter, and place them in a strong bottom-heat. As soon as they have grown to about six inches in height repot them, selecting the best plants and potting them to themselves, keeping the weaker ones for a succession. For potting use a compost of one-third leaf-mould, and two-thirds well-rotted dung, peat, and sand, with a little charcoal broken small. In potting, the plants should be bent down into the mould, leaving about three inches above the surface. Keep them in heat as before; as soon as they begin to grow vigorously supply them with plenty of water, syringing them twice a day, mornings and evenings. Air must be given sparingly for the first few days: afterwards give it freely, so as to ensure stout healthy plants. They may be potted as soon as thought fit, until they begin to show flowers, using the same compost, and giving good drainage. When they have done flowering, put the day of the month on each stick, which will enable one at any future period to know what tubers to start first. The tubers in their resting season require only to be kept dry and warm. By the same process of culture with the Gesnera Zebrina, I have larger-sized plants, profusely bloomed, and a gay succession all the year. Each single plant makes a handsome spreading head; but in order to have very large bushes, I have pans larger in proportion, and put in each pan from four to six or eight plants, and the stems and branchlets being duly arranged, the mass forms an object of extraordinary beauty, amply compensating for the attention.

POPULAR AND GEOGRAPHICAL NOTICE OF THE RIBES SPECIOSUM, OR SHOWY GOOSEBERRY.

BY MR. H. STILWELL, OF PINE-APPLE NURSERY.

PERHAPS every person, seeing this most beautiful-flowering shrub, is struck with the similarity there is between its fine long crimson flowers and those of some of the Fuchsias. It has led some persons to insist on an affinity between the Currant and Evening Primrose, to which natural order of the latter the Fuchsia belongs. This, however, is not the case; the former has but five stamens, and the latter eight; and thus, by the Linnæan system, as well as the natural system, place them widely distinct.

The charming *Ribes* speciosum, or R. fuchsioides of some, is a native of California; seeds of it were first introduced into England in 1828, and it first bloomed here in 1831. It is certainly one of the most showy, neat-flowering shrubs we possess. It can, by stopping the leads, be formed into a bushy plant; and if desired, if is readily trained against a wall or trellis, spreading admirably, and in that manner blooms beautifully. If a wall or trellis will allow it, it will extend upwards to the height of ten or twelve feet; and when so secured against a wall, or round a pillar in the open ground, has a most charming appearance. It will endure in the open air in any part of England, if the situation be a warm and dry one. It may, too, be grown in pots; and being placed in a pit or frame during winter, it induces the plants to bloom earlier in spring than the out-door ones; and they are highly ornamental for the greenhouse from the beginning of April, or earlier. The figure here given only shows the form of a specimen. The flowers are much larger. It merits a place wherever it can be grown. It grows freely in a good loam, with equal parts of grit and leaf-mould.

MISCELLANEOUS SECTION.

Garden Antiquities, No. 2.—The following is a literal copy of a letter to Sir Hans Sloane on preserving plants. It is now published for the first time from the original manuscript in the Sloane Collection in the British Museum, and will no doubt interest our readers:

Sir,—Mrs. Herbert, informed me the last Winter, you desired the receipt for preserving of Plants. I had then very few by me, and those only Gumed on paper, I have sent you, Sr by this days coach a few preserved in another manner, of which I beg your acceptance but Sr Hans Slone, must not think I do it without a mercenary view, for I set a much greater price than they deserve, when I desire leave, the next Winter, to give myself, and three, or four friends A sight of those Curiosites, which are so justly admired by all the world, the last time I had that pleasure, thought them far beyond any thing of the kind I ever saw.

if you have occasion of any farder explanation concerning the manner of preserving the plants, you may command all the information, that can be given by Sir,

Your obliged

Humble servant,

Mary Lisle.

they are liable to no
alteration but by damp,
Crux Easton August ye 20th,
in Hampshire.

To preserve the Culer of Plants.

Take your plant and gum it down to Paper very smooth with Gum Arabac, dissolved in water, let it lay three Hours in the shade to Dry, then take a Camels Hair Pensil, and wash the plant all over very lightly, with the following Mixture. an Ounce of Ruff Spirit of Niter, put to it fourteen spoonfulls of fair water, when the Plant is washed all over then put a sheet Bloting paper on it, and press it down lightly, to dry up the moisture, then uncover it, and let it lay three, or four, Hours, in the Shade to dry, then put it in a Book, or under some light waight, let it continue there for four or five days, then give it a Hot Sun, for a week or ten days, according to the thickness of the leaf, till the Juices are perfectly dry'd always putting it into the Book in the Evening, to keep it Smooth, and from the damp, for nothing Hurts the Coulars if they are kept Dry. Some Coulars require more wetting than Others, Blew, Green, and White, very little, Red and Yellow should be done with A Pensil pretty full of Licquor, but that must be learnt by experience, all double flowers, the leaves must be Dry'd seperatly, and when dry, put together. But all Buds, in the shade to dry.

Araculas, And all flowers that have A velvet leaf, Shou'd be wetted on the Backside of the leaf, before they are Gum'd to the paper.

To preserve Plants or Reptiles in Liquor.

Put two large Handfulls of Salt, to A Quart of Water, Boil it togeather, when Cold, filther it thro: A paper, to every half pint put 3 drops of Spirit of Niter, fix the flower down with wax in A Glass that is three inches Higher than the Head of the Plant, then pour the Liquor on it thro: A Glass funil that it may rise from the Bottom, of the flower, very Gently, then Cover it with A Glass Cover, that shuts very Close, and lute it down.

I have had but little experience of this, it being a tryal I am now making, having only keep one flower in it, which was an Aracula, for three months, without any Visible Change; as for insex, I believe they will take A greater Quantity of Spirit, than Plants, but I have not yet try'd any, nor weather Salt Petter, in a smaller Quantity Might not be more Effectual than Common Salt.

The Plant must be Cover'd A full inch above the Head with the Liquor.

SOME OF THE REMARKABLE PLANTS IN CHINA.—We had now entered the great Hang-chow silk district, and the mulberry was observed in great abundance on the banks of the canal, and in its patches over all the country. I was greatly struck with the appearance of a cemetery on the western side of the city of Keahing-foo, not very far from the city walls. Its large extent gave a good idea of the numerous and dense population of the town. It had evidently existed for many ages, for a great number of the tombstones were crumbling to pieces, and mingling with the ashes of the dead. But this "place of skulls" was no barren waste, like those churchyards which we see in large towns at home. Here the dead were interred amidst groves of the weeping-willow, mulberry trees, and several species of juniper and pines. Wild roses and creepers of various kinds were scrambling over the tombs, and the whole place presented a hallowed and pleasing aspect.

Leaving the old town behind us, and sailing westward, we entered a broad sheet of water of considerable size, which is probably part of, or at least joins, the celebrated Tai-ho lake. The water is very shallow, and a great part of it is covered with the Trapa bicornis—a plant called *ling*, by the Chinese. It produces a fruit of a very peculiar shape, resembling the head and horns of a bullock, and is highly esteemed in all parts of the empire. I have seen three distinct species or varieties; one of which has fruit of a beautiful red colour. Women and boys were sailing about on all parts of the lake, in tubs, of the same size and form as our common washing-tubs, gathering the fruit of the ling. I do not know of any contrivance which would have answered their purpose better than those rude tubs, for they held the fruit as it was gathered, as well as the gatherer, and at the same time were easily propelled through the masses of ling without doing the plants any injury. The sight of a number of people swimming about on the lake, each in his tub, had something very ludicrous about it.

After we had passed the lake, the banks of the canal, and indeed the greater part of the country, were covered with mulberry trees. Silk is evidently the staple production in this part of China. During the space of two days,—and in that time I must have travelled upwards of a hundred miles,—I saw little else than mulberry trees. They were evidently carefully cultivated, and in the highest state of health, producing fine large and glossy leaves. When it is remembered that I was going in a straight direction through the country, some idea may be formed of the extent of this enormous silk district, which probably occupies a space of at least a hundred miles in diameter.

While gazing with wonder and admiration on the scene, my attention was arrested by a solitary pine tree of great size, standing about a hundred yards from the gateway. No other trees of any size were near it. Its solitary position near the pass, and its great height and beautiful symmetry, made it appear a most striking object. "What could it be? Was it new, or did we already possess it in England?" I must confess that for a few seconds I had eyes for nothing else; chairs, coolies, and mountains were all forgotten; and, I believe, had the guard of Celestials attempted to prevent me from going into Fokien, the only boon I should have asked at their hands would have been to be allowed to go and inspect this noble pine.

The Chinese guard, however, had not the slightest intention of interfering with my movements, and, as the tree was on the roadside, I soon came up to it, and found it to be the Japan cedar (Cryptomeria Japonica), a tree which I already had introduced into England, and which, even in a young state, had been greatly admired there. I had never before seen such a noble specimen; and although I would rather it had been something new, I yet felt proud of having been the means of introducing into Europe a tree of such size, symmetry, and beauty. It was at least one hundred and twenty feet in height—it might be much more—as straight as a larch, and had its lower branches drooping to the ground. It had not been "lopped," like other Chinese trees, and was evidently preserved with great care. My Chinaman looked upon it with great admiration, and informed me it was the only specimen of the kind in this part of the country, and that it had been planted by some former emperor, when he crossed the mountains.

The indigenous plants of these mountains are of great interest. The ravines were rich in bamboos, many of which were of great beauty. The

Chinese pine (Pinus Sinensis) was abundant everywhere, but did not attain a large size. Higher up, various species of oak were met with; and a thistle, not unlike the common English thistle, was abundant. Very few trees were to be seen near the top of the highest mountains, which were covered with low-growing shrubs, grasses, and other herbaceous plants.

I met with one or two new plants, which deserve particular notice. One of them was a very beautiful species of Hydrangea; another was a species of Spiræa, with red flowers, not unlike the S. bella in colour, but having a different habit. A fine species of Abelia was also met with on the Fokien side of the mountains, which will probably be a favourite in English gardens; its flowers are as large as those of the Weigela rosea, of a bluish tinge, and bloom in great profusion for a long time. When I first saw it, I took it to be the Abelia Chinensis, of Brown; but I observe that Dr. Lindley, to whom the plant was sent for examination, calls it *A. uniflora.* It is a curious circumstance that Dr. Abel, after whom the genus was named, discovered his plant on the same mountains, about a hundred miles to the north-west of the spot where the Abelia uniflora was found. He was then on his way with the embassy from Pekin to Canton.

I dug up, from time to time, living plants of all these species, and took them on with me. Many a time I thought I should be obliged to leave them behind me, for the Chinamen could not see the propriety of being burdened with what they considered weeds, and of no value; however, by dint of determination and perseverance, by sometimes using promises and sometimes threats, I got them carried several hundred miles in safety, and at last deposited them in the garden of my friend, Mr. Beale, at Shanghae. They are now in Europe, and are, perhaps, the first plants which have been brought direct from the Bohea Mountains.—*Fortune's Visit to the Tea Districts of China.*

Propagation of Greenhouse Azaleas.—I have succeeded best in propagating them when their wood is about half ripened. I use cutting-pots or pans, filled about half-way up with broken potsherds, over which a small quantity of rough material should be placed, to prevent the fine mould from mixing with the drainage. I fill the pots with a mixture of two-thirds peat and one-third sand, to within half an inch of the rim. After pressing the soil with a small pot, or circular board, made for the purpose, I cover with silver-sand, and after sprinkling it with a fine rose watering-pot, to settle it, insert the cuttings. After they are put in, they should be covered with a bell-glass, to prevent evaporation, and the pot plunged in a bed with a slight bottom heat. When rooted, they will require a little air, which may be given by tilting up the glass on one side. When they begin to grow in spring, they will require re-potting into small pots, in a mixture of peat and sand; they may then be placed in a gentle hotbed for four or five weeks, and afterwards removed to the front of a close house for some time. Towards the middle of May, they will require fresh potting into four-inch pots, in the same compost as before, pressing the soil firmly round the ball of the plant, in potting. They should be afterwards removed to a cold pit or frame, and kept close for two weeks or more, and well shaded from the strong rays of the sun, until well established, when air and light may by degrees be admitted. Look over them carefully at intervals, and stop all luxuriant shoots that will bear it. The plants will be benefited by being lightly shaded, during sunshine, until their growth is established. Give all the light and air possible, in order to secure vigour and healthy appearance, and to ensure the ripening of their wood. They may remain without re-potting till the following spring, when they must be shifted, as the vigour of the plants may warrant. About the end of June, if they have done well, they will be assisted by another shift, and will still continue to increase in size, if properly attended to, as frequent shifting is found to be the most secure method of treatment, and less dangerous in the hands of amateurs. The following spring will produce fine young plants, in a fit state for flowering in six-inch pots. As they increase in age, a freer state of bloom is secured by adding a portion of loam to the compost, making one part of loam to one of peat, with a little sand, to preserve the porosity of the soil. They may be induced to flower earlier than usual, by a little forcing, in a warm part of the greenhouse.—F., *Gardeners' Chronicle.*

TO DESTROY THE SCALY INSECTS AND GREEN FLY.—I have a few plants of the Oleander Camellias, which for the last two seasons have been a good deal affected with the scaly insect; it struck me to try and cover over the parts attacked with a solution of starch. I did so, and in three days I gave a repetition of the application; these attentions wholly answered the end contemplated, the plants are clean and healthy. I applied the starch by means of the syringe; it hurts no part of the plant, but appears in all respects beneficial. The flower-buds and tips of the young shoots of my rose bushes (standards) were much pestered with the fly insect; I had a pailfull of starch and sizing mixed together and bent the buds and shoots into some of the liquid, and this destroyed every insect, and the plant was not in the least injured. I let the liquid remain untouched for three days, and then had the plants syringed overhead; it dissolved the liquid application, and my trees flourished and bloomed admirably.

CYCLAMENS.—If collected in our conservatories and gardens, the Cyclamens would afford an uninterrupted succession of flowers, at once agreeable in form and delicious in the perfume with which they fill the air. Like many other plants, Cyclamens have gone out of fashion. To prove this, it is sufficient to open the *Florilegium,* where upwards of ten species or varieties may be found. *C. Antiochum,* with a pure white corolla, and a throat of carmine-violet. *C. Aleppicum,* with snow-white flowers, the variety from which the ancient gardeners obtained the double-flowered one. *C. Coum,* a charming dwarf, whose stems seldom exceed two inches and three-quarters in height. *C. Europæum,* which grows naturally on the mountains of Switzerland. *C. vernum,* to which that singular anomaly, known by the name of *C. lincarifolium,* is referred; and *C. hederæfolium,* which has given rise to a series of varieties with white, purple, or streaked flowers. *C. macrophyllum,* leaves about five inches across, and flowers a fine rose. *C. periscum,* &c., &c.

"Cyclamens (compared by M. Van Houtte to the Gloxinias of America) are propagated by seed like the latter, and are also very analogous in their mode of vegetation; the division of bulbs, recommended for propagation, scarcely succeeds in either genus. The capsules of Cyclamen are supported by an erect flower-stalk, which, by a singular phenomenon of torsion, scatters the seeds on the ground, where they readily germinate. After the plants have flowered, the leaves die down; the bulbs are then to be taken up, and not replanted till the leaves begin to reappear. This takes place at various periods, according as the plants flower in autumn or in spring. Damp is fatal to Cyclamens; and when cultivated in pots, they require to be well drained. *C. hederæfolium* can be grown in the open ground, in shaded situations in light soil, where it produces in autumn delightful masses of rose-coloured or white flowers. The size of the bulbs, and the quantity of sap which they contain, allow of our retarding or forwarding vegetation. They may be potted every fortnight, or placed under frames with a greater or less degree of heat; and in this way a succession of flowers may be obtained from the month of November until April in the following year." — (*Flore des Serres.*)

The BEST *New Seedling Dahlias shown in* 1853, *and which are to come out next Spring.*

Admiration (Green's): tinged white, laced with scarlet; rather a flat flower, and second-rate in shape.

Agamemnon (Salter): orange-scarlet; fine form; good.

Agnes Sorel (Mignet): white, deeply edged, with cherry, occasionally tipped with white; good cup.

Arc-en-Ciel (Tassart): white, bordered with rosy-red, and tipped with white.

Beauty of Slough (Bragg): white, deep laced with rosy-purple; good petal, depth, and outline; extra fine.

Butterfly (Salter): sulphur, striped and picoteed with rosy-red; good cup and centre; fine.

Dante (Salter): light-salmon, pencilled with red; fine cup and centre.

Duc de Brabant (Cailloux): scarlet capucine; good form and centre; fine.

Duchess of Sutherland (Mitchell): white, laced with purple; good centre and outline; constant.

Eva (Keynes): blush-white.

Fanny Keynes (Keynes): buff, laced with rose; good petal and cup; great depth; fine.

Fleur des Dames (Mignet): delicate lilac-peach, striped with maroon; good form.

Gem of the Season (Pope): lavender-rose; great depth of petals; fine centre and cup.

Godefroy de Bouillon (Cailloux): salmon-red; good cup and centre.

Henriette (Howard): buff-yellow; medium shape and centre.

Hesperus (Voisenon): nankeen, tipped with white; fine centre and cup; large.

King of the Yellows (Collier): clear yellow; good outline and petal, in the way of *Queen of the Yellows.*

Lady Mary Labouchere (Turner): large white, laced with lilac; good centre and cup; fine.

Leader (Keynes): purple, striped with maroon; medium centre, distinct.

Marvel (Pope): orange, striped with scarlet; good centre and petal; distinct and beautiful.

Mrs. Rawlings (Rawlings): white; full centre; medium outline.

Musquito (Prockter): puce-red; good petal and centre; medium outline.

Oriflamme (Cailloux): golden-buff; fine centre and cup.

Pigeon (De Knyff): orange-buff, tipped with white, reverse of the petals lilac; good cup and centre; fine.

Prince Alfred (Wyness): orange-buff, laced with red, dark centre; medium outline and petal.

Rachael Rawlings (Keynes): rosy-lilac, lighter-centre; in the way of Anne Salter; good.

Ringleader (Holmes): crimson; good depth of petals, but low centre.

Sardanapalus (Legg): maroon, tipped with white; medium outline.

Topsy (Keynes): large rosy-lilac, white, with white tips; good flower.

Willy (Rawlings): orange-scarlet, tipped white; medium outline.

Royal Gardens, Frogmore, near Windsor.—"First, then, in passing through the glass-houses, we found in a greenhouse a noble specimen of the fragrant and beautiful Luculia gratissima, literally covered with large bunches of Hydrangea-like flowers just bursting into beauty. Of the value of this plant, too much can hardly be said, as we know of nothing more useful either for the purposes of decoration or for supplying cut-flowers. The specimen here was planted out in a prepared border in the centre of the house, where, without further attention than shading it from bright sunshine in summer, supplying water at the root and over the foliage to keep it free from insects, and merely excluding frost from it in winter, it was growing most luxuriantly. Many cultivators consider this fine plant difficult to manage, and to require the temperature of a stove; but it is evidently a greenhouse plant, thriving with no greater amount of artificial heat than may be needed to exclude frost and keep the atmosphere at about 45°, and rather dry while it is in bloom. In a stove, plants of Ipomœa Leari, led on strings over the front passage towards the top of the house, were still producing a profusion of showy flowers, which, displayed in this manner, were very effective. On the back wall of this house was Allamanda cathartica, covering a large space, and blooming remarkably well for this late season of the year. The beautiful Bigonia venusta was also nicely in bloom here, and clusters of unexpanded buds promised a long succession of its gay orange blossoms. This plant had apparently been pruned pretty closely last winter, and was producing blossom on every twig of the young wood, a condition in which it is seldom met with."—*Gardeners' Chronicle.*

FLORAL OPERATIONS FOR THE MONTH

IN THE FLOWER GARDEN.

THE Chrysanthemum is the most valuable plant we have for autumn decoration, either for the greenhouse or the flower-garden; it fills up a blank that no other plant we have could do. It supplies a profusion of beauty of almost every colour. It has become a desideratum in all well-managed flower-gardens, having the facility to plant a proper proportion of the most showy kinds, which ornament them, when the season keeps open, up to December. This autumn the rains have injured them. In order to have the flower-garden lively as possible, the succession to Chrysanthemums must be made up with evergreen shrubs; it is readily done at a trifling cost by plunging in potted plants of Laurustinus, Aucuba, myrtle-leaved, broad-leaved, and variegated Box; gold and silver-striped, green-leaved, yellow and crimson-berried Hollies; Arbutus, Rhododendron, Mahonia aquifolia, Phillyrea, Arbor vitæ, Bay, Kalmia latifolia, dwarf Laurels, Daphne pontica, Cedars, Cotoneasters, &c. A garden thus furnished produces a very cheering appearance; and those who have not seen one so ornamented cannot adequately conceive of its beauty and finished neatness. This attention most amply repays for the small expense, producing a lively appearance, instead of having bare beds for several months. If any Tulip bulbs be still out of ground, plant them as early as possible.

There are a number of very handsome single and double varieties of Anemones, which are highly ornamental to a flower-garden, whether in patches in the beds, or as an edging. To bloom well next season they must be planted immediately.

The Gentiana acaulis is a most charming spring flower, suited admirably for edging or patches. Its intense blue flowers, in contrast with Anemones, Hepaticas, and similar early-blooming plants, is very striking. Attention will be necessary to protect the tender kinds of herbaceous, by a layer of dry leaves, pots, boughs, or branches of evergreens, &c., also the stems of tender climbing and other Roses, by tying a covering of furze over them, that, whilst it fully protects, admits sufficiency of air for the wellbeing of the plant.

Auriculas and Polyanthuses require plenty of air in fine weather, and but little water. The like attention will be required to Carnations, Pinks, &c., kept in pots. Dahlia roots should be looked over, to see if any are moulding or likely to damage. Let the roots be dry before they are laid in heaps. Newly-planted shrubs should be secured to stakes, so that they are not loosened by the wind. Where it is desirable, reduce patches of border-flowers to a suitable size. Ten-week Stocks and Mignonette, in pots for blooming early next spring, to adorn a room or greenhouse, must not be over-watered, and be kept from frost. A cool frame, well secured by soil or ashes at the sides, and plenty of mats or reeds to cover at night, will answer well. During hard frosts, if additional soil be required for flower-beds upon grass-lawns, advantage should be taken to have it conveyed at the time, so that the turf may not be injured by wheeling. Pits or beds for forcing Roses, &c., should be prepared early in the month. Tan or leaves are most suitable, unless there be the advantage of hot water or steam. New-planted shrubs of tender kinds should have their roots protected by laying some mulch. Suckers of Roses, &c., should now be taken off and re-planted for making bushes, or put in nursery rows. Soils for compost should now be obtained. Beds of Hyacinths, Tulips, &c., should have occasional protection. Any roots not planted may successfully be done, in dry, mild weather, till February. Sweet Violets: plant these little gems as much as possible along the sides of walks, near seats, rooms, banks, under trees, &c.; they are so highly fragrant as always to be acceptable, and more especially being early spring flowers. Encourage all the spring ornaments as much as possible: Crocuses are pretty flowers, always gay in sunshine, and give a peculiar cheerfulness to every place they occupy; never be sparing in the quantity of them near a dwelling-house. Do not omit the first flower that awakes thee from the repose of winter:

> "A flower that first in this sweet garden smiled,
> To virgins sacred, and the SNOWDROP styled."

IN THE FORCING STOVE.

Aconites, Crocuses, Violets, Mignonette, Stocks, Tulips, Cyclamens, Narcissus, Lilies of the Valley, Hepaticas, Primroses, China Primroses, Persian Irises, Cupheas, Hyacinths, Pinks, Carnations, Tree Carnations, Heliotropes, Scarlet Geraniums, Salvias, Gardenias, Roses, Azaleas, Cinerarias, Jasmines, Honeysuckles, Deutzias, Rhododendrons, Persian Lilacs, Rhodoras, Ribes, Mezereums, Correas, &c., required to bloom from January, should be brought in early in the present month. The plants should be placed at first in the coolest part of the house; never allow them to want water. Pots or boxes containing bulbous-rooted flowering plants, as Hyacinths, Narcissus, Persian Irises, Crocuses, &c., should occasionally be introduced, so as to have a succession of bloom. Many persons who take a delight in growing Hyacinths or other bulbous plants, for adorning a room or window, in winter or early in spring, have been frequently disappointed by the abortiveness of some and weakness of others. This principally arises from the inability of the plant to develope itself with a rapidity equal to the quantity of moisture it imbibes, on account of its upper surface being acted upon too immediately by the atmosphere; hence arises the necessity of covering the bulb. That such is a fact is evidenced by the admirable and certain success of nearly every bulb, especially Hyacinths, that is covered with about six inches of old spent bark or ashes. This or some similar light material should always be used. Even bulbs intended to bloom in glasses we prefer starting in the cold bark, and then transferring them to the glasses when the roots are about two inches long. Where such covering is not adopted, the pots or glasses should be kept in a dark place till the roots are two or three inches long, and then bring them to the light. Always use water for the glasses that is just aired; cold water gives a check which greatly injures the roots, and, consequently, the bloom. Cactus plants that have been kept out of doors, or in the greenhouse, should occasionally be brought into the stove for flowering, which gives a succession. If any of the forced plants be attacked with the green fly, a syringe with diluted tobacco-water will destroy them. If the leaves appear bit, and turn brown (the effect of damage by red spider), a syringe of soapsuds at the under side of the leaves is effectual to destroy them. The glutinous substance remaining, not only kills those it is applied to, but prevents others returning there. The old Eranthemum pulchellum, with its fine blue flowers, Justicia speciosa, Gesneriæ zebrina, Justicia pulcherrima, Aphellandria cristata, Poinsettia pulcherrima, Cestrum aurantiacum, and Begonia fuchsioides, are fine winter ornamental blooming plants.

IN THE GREENHOUSE, &c.

As much fire as will barely keep out frost will only be necessary, and for the purpose of drying up damp arising from foggy nights, or from watering, all possible air should be admitted in the daytime; but mind to keep the plants from damage by frost.

Fuchsias and greenhouse plants, intended to be inured to the open air, will require to have protection at the roots, and probably, for the first winter, over the tops too, by furze branches, canvas, wicker baskets, mats, &c. If greenhouse plants require watering or syringing over the tops, let it be done in the morning of a clear day, when air can be admitted; and towards evening a gentle fire-heat should be given. Calceolarias must be in a cool situation. Whilst in a cool and moist atmosphere, the shoots will often push at the underside numerous rootlets; where such are produced, they should be taken off and potted. Pelargonium plants for exhibition should be repotted by the middle of this month; according to the size of the plants must be the pots. The smallest-sized pots in which plants are to be when shown are the 24's, eight inches in diameter, and the largest-sized are eleven inches in diameter. The plants need not be potted into these sizes now, but a size less, and in February be re-potted into their final pots. The plants must not be crowded together, but be kept apart. Cinerarias are often attacked at this season by the green-fly; let the plants be placed in a hot-bed frame, and be fumigated with tobacco-smoke at the first appearance of the insects.

BRIEF REMARKS.

Statice arborea.—This fine species has been grown very successfully in a temperature ranging about 55°, potted in equal portions of loam, peat, and sand; it will thrive vigorously if it is shifted when its roots are becoming plentiful, affording it very abundant and ample drainage; growing in its native habitats, surrounded on all sides by the ocean, would seem to furnish a hint that water, impregnated with saline particles, would be of great importance in its artificial treatment; and if it could be placed within the influence of evaporation from water of this kind, there are some grounds for supposing that much benefit would follow. Those who have the plant under their charge would do well to institute a series of experiments on these points.

CLEMATISES.—As conservatory climbers, Clematis azurea grandiflora and C. sieboldii, and the fine new variety, Sophia, noticed in "New and Rare Plants" in this Number, deserve especial recommendation; they both grow and flower freely, requiring only good rich loamy soil, and plenty of room to extend their branches; their blossoms are very handsome, and are produced in abundance. Notwithstanding that both species are hardy, and succeed well in the open air, they deserve very extensive cultivation in conservatories, especially if grown in a position to enjoy a due share of light, in which case they flower more abundantly; either trained on an extended scale, up pillars, or coiled to a wire frame-work.

CACTUSES AND EPIPHYLLUMS.—I have lately seen a very interesting adaptation of the well-known fact, of the various kinds of Cactus and Epiphyllum growing freely when grafted on Pereskia aculeata. This plant, which is of rapid growth, almost approaching a climbing habit, was, in the case alluded to, trained over the pathway in a conservatory, among other climbing plants. In this situation it had been grafted in several places with Epiphyllum speciosum, truncatum, and the violet and flesh-coloured varieties; also Cereus flagelliformis, which were growing freely, and producing flowers in abundance. The stem of the Pereskia being hidden by the other plants, would almost have induced one to fancy that the Cactuses, &c., were entirely living on air; and although a little penetration would, of course, convince a person of his error in this supposition, it did not at all lessen the effect produced by their appearance in this situation.—*John Scott.*

DAHLIA MACULATIFOLIA.—This plant, which will be offered to the public the ensuing spring (and for the introduction of which we are indebted to Mr. John Cordery, a florist of some note), is certainly one of the finest and most elegant plants for ornamental and decorative purposes that has yet been introduced to the notice of lovers of floriculture. Its handsome lanceolate bright-green foliage, beautifully mottled with yellow, contrasted with its pretty lively rose-coloured blossoms, giving it a novel and attractive appearance, such as will justly entitle it to the now uniform opinion of all who have seen this flower, that it is a most valuable acquisition to the beautiful section of *variegated-leaved* plants. —*J. R. T.*

CULTURE OF SHOW PELARGONIUMS.—Observing that a correspondent solicits general hints on the management of the large-flowered section of Show Pelargoniums, I forward the particulars of my method, having been one of the most successful exhibitors at the great London meeting for ten years. I strike the cuttings about the beginning of June, or sooner, if the plants will bear cutting. As soon as rooted, they are removed into 60-sized pots, and set in a shady situation on boards or slates, or in a cold frame. When rooted, they are removed to an open situation, and as soon as the plants will bear the sun without flagging, they are stopped. In September they are repotted into 48-sized pots, and at this time I commence training. In December and January those that are sufficiently strong are again shifted into 16-sized pots; in these pots they are allowed to bloom. About the middle of July or beginning of August they are headed down and set in a shady sheltered situation; and when the plants have shoots near an inch long, the soil is nearly all shaken from the roots, and they are again repotted into the same sized pots. As the shoots are formed they are carefully thinned out. In the greenhouse, the plants intended for exhibition are kept four feet apart; the front sashes are kept open on all convenient occasions. In November the plants are stopped, and a stake put to each shoot. The leaves are thinned out to allow the air to circulate freely. In December and January the strongest plants are again selected and potted into 8-sized pots, and at this time additional heat is applied to enable the plants to root rapidly. In February they are syringed in the afternoon, but sufficiently early to allow them to dry before night. In March they are again repotted in 2-sized pots; water is now very liberally supplied. When the flowers begin to open, a shading of cheese-cloth is used on the outside of the house. Air is admitted before the sun has much power on the glass, and this is found to prevent the attacks of the green-fly. The success of all the other operations depends on the mode of applying fire heat. The fires are lighted at three or four o'clock in the afternoon, and allowed to go out about nine or ten. They are again lighted about three or four o'clock in the morning. The thermometer during the night is kept at 40° or 42° Fahrenheit. The soil is prepared thus,—a quantity of turfy loam is chopped and laid up in a heap, a quantity of fresh stable litter is then shaken up and laid in the form of a mushroom-bed, and about one-third of cow-dung added to it. If the weather is dry at the time, the manure is well watered; liquid manure and the steam or ammonia is prevented from passing off by a covering of slates. In this state it is allowed to remain fifteen or sixteen days, and is then mixed with about an equal quantity of fresh loam, and when the mixing is completed the heap is at last covered with loam. At the end of a month or five weeks it is turned over three or four times, in order that the dung and loam may incorporate well together. In twelve months it is fit for use. To two barrowfuls of this compost is added one of leaf mould, and a peck and a half of silver sand.

Uses of Leaves.—In the present state of agricultural economics, when our leading farmers are debating the value of long straw or chopped straw, or no straw at all for bedding their cattle, it is remarkable that leaves, which are everywhere at the present time, and voted a nuisance, should not be used for littering farming stock. For some weeks past my cows and horses have been bedded with leaves, and nothing can answer better, being cheap and plentiful, and moreover forming an excellent bed. Of the quality of the manure from such a combination of nutritious substances, it is scarcely necessary to speak, but it may not be out of place to remark, that a combination of horse and cow manure, with leaves properly fermented and reduced, would, perhaps, for horticultural purposes, especially for pot plants, form one of the finest manures that could be used. The bailiff of a gentleman in Sussex, on a heavy land farm, used leaves for litter some years back, and, by using them plentifully in the fold-yard, produced such quantities of manure as quite to eclipse his neighbours in the quantity and quality of the corn crops he produced. I would strongly recommend gardeners to try the experiment of manure for potting purposes, prepared as intimated above. For soft-wooded plants I think they will find it perfection, especially if fermented at a temperature sufficiently high to destroy all insects and their eggs; for I find cow-dung, which has been subjected to sufficient heat to char it, is just as good as when kept until it is three or four years' old. It is an excellent plan to subject all composts intended for potting plants to a temperature sufficient to destroy both seeds and insects before using it; and if it is a little warm at the time of using it, tender plants will be much benefited thereby; and at this cold season men will do much more work in a warm shed with warm soil, than if their hands are in a cold soil from morning till night. In fact, a heating apparatus, such as a stove for the purpose, or arrangements for using the waste heat of a hot-water boiler, is a very necessary and profitable appendage of an establishment where much potting is to be done.—*W. P. Ayres, Blackheath.*—*Gardeners' Chronicle.*

New Edging Plant.—I send you a spike or two of one of the prettiest of autumnal shrubs, Polygonum vacciniifolium; its vivid pink is destroyed by the frost. Ever since August it has been beautiful. For an edging shrub it is excellent.

Grafting Epiphyllums, Cereus, &c.—I have been exceedingly successful in this operation with the above, and others of the *Cactus* order of plants, and therefore forward the particulars of my procedure:

Stocks.—I have used Cereus triangularis, C. speciosissima, Opuntia Braziliensis, Pereskia aculeata, and longispina, but find none equal to Cereus speciosissimus; it is much hardier than any of the others, and not so liable to damp off.

The best method of preparing the stocks is in February to take some of the strongest shoots, from six inches to six feet, as any length will do; then, with a sharp knife, remove the eyes for four or six inches from the bottom; this prevents the stocks making suckers. Let them remain in a cool place for a few days to dry, to prevent damping; then place each cutting in small pots of good rich sandy loam, and filling in a good bark bed, withholding water for ten or twenty days. When the roots protrude through the bottom of the pots, remove into larger, which, when well established, are ready for grafting.

The operation is performed by taking off the head of the stock where the columnar axis has become firm, dividing it with a sharp knife to the depth of a quarter of an inch, being careful not to bruise the soft outer coat. Grafts of any length, from six inches to eighteen inches long, will succeed, those of last year being the best. Leave the end of the graft wedge-shaped, that is, the columnar axis three-fourths of an inch, clearing away all the soft fleshy part to that length; then press it firmly into the stock until both edges meet, passing a spine of Opuntia longispina, or some other strong Opuntia, through the stock and graft, to keep it from rising out of its place; bind a little soft moss round the part operated upon, and keep it shaded; in a week or ten days it will have taken hold, provided it is properly performed; in the course of a month the moss may be removed, and the graft cut to four or six eyes, if a bushy regular head is required. Plants on stocks six feet high look the best trained on mushroom-shaped trellises. I have found grafts with several shoots of from six to twelve inches each succeed as well as smaller ones, provided the stocks are healthy. I have a plant at this time of Epiphyllum speciosum, grafted on

Cereus speciosissimus Sept. 4, 1846; the stock is six feet high, and the circumference of the head twelve feet; many of the branches or leaves four feet long.

Artificial Flower-making.—Artificial flower-making is not an insignificant trade. An inquiry was made into the industrial statistics of Paris in 1847, which lets us into a little secret in this matter. The total manufacture of cambric flowers in that year was prodigious, amounting in value to more than 400,000*l.* sterling. We, in England, only took 12,000*l.* worth of this value; for we pride ourselves on being able to make our own artificial flowers. The cambric, muslin, gauze, velvet, silk, and other materials were procured from St. Etienne, St. Quentin, and Lyons; the dyes and colours were prepared expressly for the purpose by manufacturing chemists; the buds, leaves, petals, stamens, pistils, and other component parts, were made in small workshops by persons who each attended to only one part of a flower, while the whole were fitted together in other workshops. Even these workshops are frequently limited to one single kind of flower each; so completely is the division of labour carried out. There were about 50 small manufacturers of petals and stamens, and other component parts, employing about 500 persons; while there were nearly 600 dealers or vendors, who employed nearly 6,000 persons in building up the various integers into whole groups of flowers. Of this immense number of persons, about 5,000 were women, whose average earnings were estimated at 1*s.* 8*d.* per day. Several of the manufacturers effect sales to the amount of 10,000*l.* a year each. We must, therefore, regard French flower manufacturers as commercial men of notable import.—*Dickens's* "*Household Words.*"

Temperature for successful Plant-growing.—The temperature which is most favourable to plants in the natural state is most likely to agree in an artificial one; the practice of sustaining a temperature nearly uniform is not the proper method of treating plants, a diurnal season of rest being as necessary to a plant as to an animal; neither can they be constantly under the same exciting power of heat without injury, as is obvious from the enervated and unhealthy state of stove-plants when an equable heat is attempted. In such cases, where plants are submitted to such a degree of heat as to keep them constantly growing, they are sure to become exhausted, sickly, and etiolated. It has been shown by vegetable physiologists, that the leaves of plants do not perform the same functions in the dark as in the light, and that a rise of temperature has a sensible effect on their organs of respiration. If the air be allowed to cool in the night, it will generally deposit a portion of vapour on the plants; if it be kept warm it will, on the contrary, in consequence of respiration, tend to exhaust them of moisture, and as the leaves of plants absorb oxygen and moisture in the night, and give out a portion of this oxygen in the day, when exposed to the light of the sun, we may infer that both light and heat, the exciting causes of the operation of the day functions, should be less powerful in the night. A view of the provisions of our all-wise Creator will tend to confirm this opinion. Nowhere within the limits of vegetation is the heat equally powerful in the night as in the day. In a stove for plants of the torrid zone it is desirable to know the mean noonday heat of the coldest month, and the mean night heat of the same period, at some place within the tropics where it is known to be most favourable to the vegetation of plants of that zone. It will also be requisite to know the mean noonday heat of the hottest month, and also the mean night heat of the same time, in order to regulate for the summer temperature. The mean temperature of the year is of little use in this inquiry, because our object is to ascertain the change of temperature most conducive to the well-being of plants, and the lowest temperature to which they may be safely exposed, under the impression that the Author of life would have provided them a uniform heat if it had either been necessary or useful.—*T. Morton, Hull.*

Tying Plants.—Much of the beauty of plants in many collections is lost in consequence of the ill judged mode of tying them up; it too often happening that valuable plants are tied into a thick faggot-like bundle, instead of its being made an operation of taste, on which the beauty of the plant mainly depends. This arises from a want of discrimination in affording support to plants which, under artificial treatment, are dependent on man for all their wants. It ought to be constantly borne in mind, that no plant should be tied which does not absolutely require it; that tying, whenever resorted to, except in the case of climbing plants, should be simply to assist the natural habit of the plant; and that every stake should be removed as soon as the shoot it supported is capable of retaining its position without such assistance.

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